

Consumers' Research Bulletin



August 1950

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CONSUMERS' RESEARCH

Vol. 26 • No. 2

BULLETIN

August 1950

Off the Editor's Chest

WHAT'S in a name? The marketing experts hold that the brand name selected for any product has an important and lasting effect on its life and success. An effective brand name that is easy to recognize, pronounce, and remember will find greater customer acceptance at lower promotion and advertising costs. Some brand names have been so popular that they have lost or nearly lost their identity as particular maker's products and have come to represent a type or class of products. "Cellophane," for example, was not protected by DuPont as its own brand name and has become legally a generic term, and the same company has made no effort to protect its coined word "nylon." On the other hand, successful legal measures have protected Kodak, Vaseline, Coca-Cola or "coke," Kleenex, and Deep Freeze from being applied respectively to cameras, petrolatum, cola drinks, cleansing tissues, and home freezers in general.

If it is considered important to make certain that a particular brand name is reserved solely for use on the products of one manufacturer, producer, or distributor, then the brand name ought to represent certain customary and maintained standards of performance or composition. It is often claimed by defenders of advertising that all well-known or nationally-advertised brands consistently maintain

a high level of excellence. In a discussion of the registration of brand names under the Lanham Act, one professor of marketing took the position that "A trade-mark assures the consumer that a product is of a certain standard quality, and often indicates its source." Certainly, big sums of money have been spent to convince people that a particular name stands for good value and quality. It has been estimated that in two decades Philco Corp. has spent around 75 million dollars to establish the Philco trade name. No doubt there are a number of other companies whose expenditures for the same purpose will equal or even exceed this amount, for many brand names are constantly being promoted to establish or maintain their standing in public esteem.

It is not enough, however, simply to affix the same name on whatever product the company which holds the right to the trade-mark chooses to turn out. As the college professor of marketing might have put it if he were as familiar with the actual qualities of nationally-known brands as the technical staff of Consumers' Research, "a trade-mark should assure the consumer that a product is of a certain standard quality." Very often it does not. In making a selection of brands of sheets for

(Continued on page 26)

Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

Scientific and Technical Staff and Editors: F. J. Schlink, R. Joyce, Dwight C. Aten, M. C. Phillips, Erma A. Hineck, and A. R. Greenleaf. Editorial Assistants: Mary F. Roberts and B. Beam.

Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 4 high. Note that price and quality are completely differentiated in CR's listings; a quality judgment is independent of price; 49, 50—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least 5 weeks before it is to take effect, accompanying your notice with statement of your old address with name in full. At least a month's notice must be given in any case. This rule, however, regarding long advance notice does not apply to military personnel.

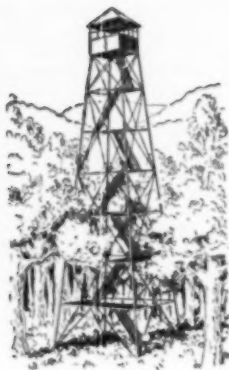
*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

***For a brief cumulative index of 1950 BULLETINS preceding this issue, see page 19.

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The Consumers' Observation Post

AUTOMOBILES were going like hot cakes in May, but some cautious dealers, mindful of last February's reports of oversupplies and price cutting, will wait until after Labor Day before they can be sure that consumer purchases of cars will remain high for the rest of the year. Demand is so good that General Motors, Chrysler, and Ford are reported to have delayed their plans for new models until November or later. Other companies have also increased production schedules due to high sales levels.

In some sections there have been buyers' waiting lists for the more popular makes and models. The Korean war has further stimulated buying.

* * *

PHONOVISION is a gadget put out by Zenith Radio Corp. which can be hooked into a television set to enable the home viewer to secure motion picture showings by telephone. For this service, the fee is \$1 for each movie, and the charge is paid with the monthly telephone bill. The hope is that this method will make it profitable for Hollywood to turn out feature-length films of high quality for television shows. The chief obstacle to the plan is reported to be that motion picture studios are bound by contract with the American Federation of Musicians to keep musical sound tracks from being used on television. If a trade association practiced such restraint of trade, it would be subject to prosecution for monopoly, but we shall be surprised if the Department of Justice is moved to take any action in this case.

* * *

ANTI-PERSPIRANTS are more effective in solution form than when they are incorporated in creams, according to studies by Dr. B. V. Meigs of the Colgate-Palmolive-Peet Laboratories as reported in a trade journal. Aluminum chloride was also found to be more effective than aluminum sulfate. These findings confirm earlier comments made by CR on the subject. Having established the fact that there was no great difference in the rate of moisture production between the right and left arms, Dr. Meigs and his colleague developed a device for measuring perspiration on the inner surface of a subject's forearm, using his other arm as control. One of the conclusions of the various tests made was that there was a period of two or three days following the use of an anti-perspirant before it began to take effect.

* * *

THE BATTLE OF THE RECORDS continues with the announcement of a price slash on Remington Long Playing records by the company's president which, according to Tide magazine, he hoped would "knock the bottom out of the long playing record industry" because he claimed it had been making too much money anyway. In the event that record connoisseurs saw the announcement and looked for an early reduction of prices on leading brands, we regret to report that, even at the reduced price of 99 cents each, the Remington LP's would appear to be no bargain. Surfaces of the three disks which we bought were noisy; the range was narrow so that the highs and lows were lost; bass was distorted, and treble, when accentuated, was too shrill; accompaniment was poorly blended with voice. Played on high-fidelity equipment, the selections were, to put it charitably, quite undistinguished. Selections of music were largely of the kind that are in the public domain and of the dinner-music variety.

* * *

SHALL FREIGHT be carried chiefly by the railroads or by trucks on highways that are supported and maintained largely by the private taxpayer? A question that is being given careful consideration by a number of state governments is the extent to which operators of heavy vehicles are being virtually subsidized.

Surveys in California and in Illinois in recent years have indicated, according to The Wall Street Journal, that passenger cars and light trucks were carrying the lion's share of highway construction and maintenance costs. The American Association of State Highway Officials is already reported as expressing alarm at the rapid rate of increase of funds needed for highway maintenance.

* * *

HOUSES are being built too fast for their own good. So much green and otherwise inferior lumber is being used in home dwellings that lumbermen gloomily predict many low-cost homes will glut the market in five years' time. The foreseeable defects include gaping walls, squeaking floors, cracking plaster, jammed windows, baseboards that buckle, and doors that won't shut. One southern lumberman is reported as saying that the poorest and greenest lumber is used by the mass builders in sections close to lumber producing areas, for it does not pay to ship the low-grade stuff any distance. Another has suggested that the young and inexperienced buyer of a home may be under the impression that the guarantee of a loan by a government agency such as the Federal Housing Administration or the Veterans' Administration carries with it some kind of guarantee of the quality of his new home, but such is not the case.

* * *

ADVERTISING CLAIMS for miraculous effects from the use of ammoniated dentifrices are causing embarrassment to the dental profession, in the opinion of one state health official. At a professional society meeting he discussed the recent discovery that people who have a high percentage of the ammonium ion in their saliva are not troubled with tooth decay. He pointed out that although that fact may indicate the possibility that daily application of ammonium compounds will deter decay, this hypothesis has yet to be established by scientific studies. It is not yet a proven fact.

* * *

UNPLEASANT ODORS in the home have been the subject of current advertising for several products, misleading claims for which have been exposed in a number of instances by CR. Of considerable potential interest to those seriously concerned with the elimination of household odors and industrial and hospital odors is a 12-page pamphlet entitled "Control of Odors," by Elmer R. Weaver, National Bureau of Standards Circular 491 (10 cents, from Superintendent of Documents, Washington 25, D. C.). In an exceptionally good job of presenting scientific information so attractively that the layman will find the paper delightful reading, Mr. Weaver makes the point that the best solution of the odor problem is to find the cause of the trouble and remove it. The next best method of dealing with it is ventilation. Air-borne deodorants usually do not remove the offending smell, but either tend to blunt the sensibility of the olfactory tract or to "mask" the objectionable odor with a cover-odor of their own. Ozone, for example, points out Mr. Weaver, anesthetizes the organ of scent so that not only is the awareness of familiar odors lost but the perception of delicate flavors is also gone, and an excellent steak may seem quite "tasteless."

* * *

PERFUME that may be brought in by the tourist from foreign lands is limited to one bottle of one fragrance of each manufacturer beginning August 1, 1950. It appears that travelers abroad have been loading up on perfumes in France so extensively under the new \$500 quota allowed each visitor that American retailers of imported perfumes have suffered heavy financial losses. The one bottle limitation would theoretically permit a person to bring in a quart of Chanel No. 5, but the perfumers reportedly figure that if it is in one bottle, it won't be easy to give away to friends or to bring it to some retailer's perfume counter for credit or refund. Their chief complaint has been that some people have in effect sold their foreign purchases at U. S. retail prices, for one New York specialty shop manager discovered on taking inventory that his perfume department had four more \$70 bottles of an imported perfume than he had purchased from the manufacturer.

* * *

THE SALAD SEASON is at its height, and a timely warning is in order. Remember that salads are easily contaminated with harmful organisms which, under warm temperature conditions, points out the Massachusetts Department of Health, may develop to a dangerous extent. Special precautions should be taken in

(The continuation of this section is on page 29)

Clothes Dryers

AS every housewife knows, wash days are often poor days for drying clothes. For this reason, an electric or gas clothes dryer in the home can be a very useful appliance, especially during inclement weather or at times when the atmosphere is especially dusty or sooty.

Dryers are of two types: (a) Automatic tumbler type, in which the clothes to be dried are placed in a perforated drum which revolves slowly; (b) cabinet type, in which the clothes are hung over rods. In both types, air, heated by gas or electricity, circulates through the drying chamber, sometimes aided by a small fan.

All the electric dryers use a very large amount of electric power. The few dryers that are manufactured for use on the regular 115-volt circuit draw about the maximum current allowable on any one branch circuit, and therefore the circuit had best be one which is reserved for supplying the dryer only. Dryers for 230-volt operation must have a special 3-wire line; the installation cost of these is from \$40 to \$50 in the Detroit and Chicago areas. The cost varies according to the circumstances, and will be high whenever the existing wiring is of a type that was not intended for heavy loading. In some communities the power company may request that you avoid use of the 230-volt dryers at certain hours when the lines are carrying a peak load. An average "incremental rate" of 2 cents per kilowatt-hour will be applicable, as a rule, to high-wattage appliances, such as most clothes dryers, because of the addition of the appliance to

the existing household load. Appliances drawing small amounts of power, such as the *Whirlpool* gas dryer, will not increase the load on the lines sufficiently to cause a lower step of the rate to come into effect.

Gas dryers of the tumbler type that use both gas and electricity may be plugged into the regular line for their electric power since the electrical demand of these is small. Installation of a gas dryer requires extension of existing gas pipes. As the table indicates, use of a gas dryer will usually cost somewhat less than the electric dryer; the consumer may wish to determine which will be cheaper in his location considering relative costs of manufactured gas and electricity there. Where natural gas is available, the gas dryer will normally have a decided advantage in cost of operation.

The following table shows relative operating cost per pound of wet clothes and relative time to dry a pound of wet clothes, computed on the basis of removal of 75 percent of the moisture from the clothes. (This is considered a reasonable and convenient value for percentage water removal if an electric ironer is to be used. Somewhat less moisture should be removed for use with a hand iron.) The first figures are from a cold start; figures in parentheses are from a second test run immediately following the first run, with the dryer warm, and with humidity and temperature conditions in the room as they were developed by the first run.

With the exception of the *RA-Dryer*, all dryers were tested with an 8-pound load of clothes (the

Dryer	Energy Expended, kwhr.	Relative Cost (in cents)		Relative Time (in minutes)	
		To dry a 16-lb. load of wet clothes	To dry 1 lb. of wet clothes	To dry a 16-lb. load of wet clothes	To dry 1 lb. of wet clothes
<i>Hamilton</i>	2.94 (2.70)	5.9 (5.4)	.37 (.34)	38.1 (39.5)	2.38 (2.47)
<i>Whirlpool</i> (gas) ¹	.18 (.17) 20.52 (19.0) ²	3.5 (3.2)	.22 (.20)	38.0 (35.2)	2.38 (2.20)
<i>Whirlpool</i> (electric)	3.10 (2.76)	6.2 (5.5)	.39 (.35)	45.2 (45.3)	2.82 (2.83)
<i>Bendix</i>	2.82 (2.64)	5.6 (5.3)	.35 (.33)	39.6 (36.7)	2.48 (2.29)
<i>Hotpoint</i>	2.95 (2.69)	5.9 (5.4)	.37 (.34)	39.2 (36.2)	2.45 (2.26)
<i>RA-Dryer</i>	4.03 (3.82) ³	8.1 (7.7) ³	.50 (.48)	154 (152) ³	9.60 (9.50)

¹Computed on basis of 3.5¢ per kwhr. of electricity and \$1.40 per 1000 cu. ft. of manufactured gas with heat content of 540 Btu per cu. ft.; others computed on basis of 2¢ per kwhr.

²Cu. ft. of manufactured gas.

³Based on two 8-lb. loads of wet clothes.



*Whirlpool Automatic Clothes Dryer
Model 91820 (Electric) and 91830 (Gas)*



*Hotpoint Automatic Clothes Dryer
Model 3LD1*



Bendix Automatic Dryer Model E 803

load of damp-dry clothes after spinning or wringing will weigh 16 to 18 pounds, the additional weight being the water which is to be removed). For most economical operation of the clothes dryer, therefore, it is important to have a good wringer or centrifugal dryer on the washing machine.

The *RA-Dryer* was the only dryer tested that was not thermostatically controlled. This is a disadvantage and would seem to involve a potential fire hazard. This dryer was not automatic as the others were and hence required being shut off manually by the operator. Much time must be spent in carefully spreading and hanging each piece of laundry, whereas in the tumbler type, clothes are just tossed into the drum. The *RA-Dryer* had the advantage of noiseless operation and could be plugged into the regular household 115-volt electric circuit.

A few of the manufacturers have cautioned the consumer not to dry woolens, because the tumbling action of some dryers combined with relatively high drying temperatures will cause felting and shrink-

age. Some plastic buttons should be removed, else they lose their original shape and color with the heat. So far as is now known, articles that can be washed in a washer can be dried safely in a dryer; that doesn't mean that fine or dainty fabrics can be dried with heat, forced air, and tumbling. (Possibly some dyes may be affected.) Delicate fabrics or garments should, by all means, be put in the dryer in a cloth bag. Non-fast colors should be dried separately. Clothes that have been treated with flammable cleaners should *never* be placed in a dryer because of the great hazard of fire, explosion, or poisoning of persons in the house. If clothes are not thoroughly rinsed before drying, the soap that is left in them may turn brown under heat. Starched clothes need to be starched with a thicker starch solution than normal, as some starch is lost in the drying process. When practicable, dry several loads while the dryer is hot; this will mean some saving in cost of operation.

An important disadvantage of dryers is implicit in the fact that the moisture from wet clothes has



Lint Trap of Whirlpool



Lint Trap of Hotpoint



Lint Trap of Bendix

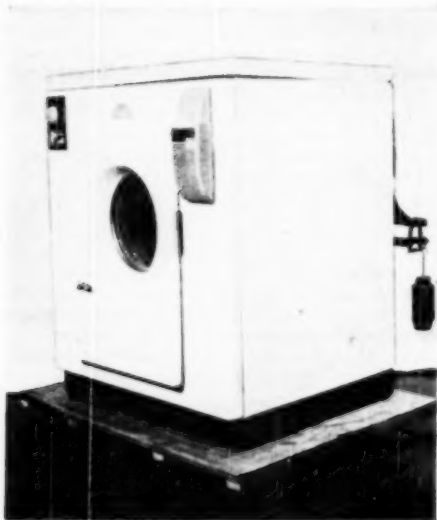


Illustration shows dryer mounted on platform scale during test. This arrangement permits determination of the amount of moisture extracted from the clothes at any given time from the start of the test. The model shown in the picture is not one of those reported in the listings.

to go somewhere. This "somewhere" is in the room where the dryer is located, and thence to the rest of the house. The moist air is also warm, and may cause the room to become uncomfortable. In the winter, marked condensation of water on the windows and walls will often occur. In houses without "vapor barriers" in the walls, condensation of large amounts of water between the walls could occur, and thus cause damage to the wood framing, and of course could cause rapid and serious deterioration of the paint coating. Paint failures due to moisture coming from inside the house to the back of the siding are very common where much moisture is produced within, especially when the house is of fairly tight construction.

The operation of two consecutive cycles of an automatic dryer of the tumbler type was found to increase the relative humidity of the test room from 30% to 63%, an increase of 33 in relative humidity. (However, the non-automatic *RA-Dryer*, of the cabinet type, raised the humidity only from 33% to 39% — with 50% smaller dryer loads.) The temperature of the test room was raised about 9° by the two consecutive dryer operations.

The test room was 18 x 19 feet and 11 feet high. Tests made were at the "Medium" or "Normal Dry" setting on those dryers having a heat control. A dryer should be installed where there is good ventilation; this may be provided if necessary by an ordinary kitchen exhaust fan. A better method is to vent the exhaust from the dryer directly to the outside of the house. In the wintertime, exhausting the air from the dryer to the outside will require that corresponding amounts of cold air be drawn into the house, and then this cold air must be brought up to comfortable living temperatures, which means a loss due to the extra fuel required for heating the house.

Another problem is lint. In the tumbler-type dryers tested, the amount of lint blown into the room ranged from negligible to a good deal. It is desirable to clean the lint trap after each load. Whether the lint removed from clothes by the dryer is more or less than that removed from the clothes by hanging them outside in the breeze, has not been determined by CR. It is known, however, that the amount of lint decreases each time a given lot of clothes are dried. On the basis of the tests made, we believe it reasonably safe to assume that wear on clothes is slight in all cases, and is probably not a serious problem.

Clothes dryers produce a large amount of heat, and thus there is a possibility of fire should something go wrong. It is important, therefore, to purchase a dryer that is listed by Underwriters' Laboratories, Inc., or, if the dryer burns gas, one approved by the A.G.A. (American Gas Association, Inc., whose Laboratory is at 1032 E. 62 St., Cleveland 14).

The appliances were tested for electrical safety, power input (measured power input appears in parentheses after rated input), and performance in drying. In addition, they were inspected to pro-



Hamilton Automatic Clothes Dryer Model 900E



RA-Dryer

vide a judgment of those features which would influence convenience of use and durability.

A *Westinghouse, Model D3-A*, a tumbler-type dryer that operates on the regular 115-volt line and draws 15 amperes, is now being tested by CR and will be reported on in the near future. This dryer would not need any special installation or wiring, provided no other appliance can draw current from that branch of the house wiring at the same time.

B. Intermediate

Bendix Automatic Dryer, Model E 803 (Bendix Home Appliances, Inc., South Bend, Ind.) \$200. Cabinet (space requirements), 36.0 in. high, 30.8 in. wide, 30.0 in. deep. Door at front. Galvanized drum with 6 small baffles, 3 on each side. 3 wire, 230 volts, 60 cycles, 4300 watts (4640). Rated for a 9-lb. load of dry clothes. Controls: Lacked heat control; timer, 0 to 60 min. Lint trap had provision for connecting to outside vent (desirable). Somewhat noisy in operation. Listed by Underwriters' Laboratories, Inc. 2

Kenmore Automatic Dryer (Sold by Sears, Roebuck & Co.) \$190. Not tested, but was essentially the same as the *Whirlpool, Model 91820*. 2

Whirlpool Automatic Clothes Dryer, Model 91820 (Nineteen Hundred Corp., St. Joseph, Mich.) \$200. Cabinet, 35.3 in. high, 29.2 in. wide, 27.5 in. deep. Door at front. Machine will not operate with door open (desirable). Gray enamel drum with 3 baffles. 3 wire, 230 volts, 60 cycles, 4600 watts (4655). Rated for 10 lb. Controls: heat control, marked Damp, Normal Dry, and Rugs; timer, 0 to 60 min. Efficient lint trap. Quiet in operation. An ultraviolet lamp, supposedly to supplement the sterilizing effect of the drying process, is included. Appliance is listed by Underwriters' Laboratories, Inc. 2

Hamilton Automatic Clothes Dryer, Model 900E (Hamilton Mfg. Co., Two Rivers, Wis.) \$220 (formerly \$250). Cabinet, 39.0 in. high, 31.5 in. wide, 27.5 in. deep. Door at front. Perforated galvanized drum with 3 baffles. 3 wire, 230 volts, 60 cycles, 4700 watts (4540). Controls: heat control, marked Low, Med., High; timer, 0 to 60 minutes. Quiet in operation. Considerable lint blown out on the floor. Listed by Underwriters' Laboratories, Inc. 3

Hotpoint Automatic Clothes Dryer, Model 3LD1 (Hotpoint Inc., 5600 W. Taylor St., Chicago 44) \$250. Cabinet, 35.8 in. high, 31 in. wide, and 27.0 in. deep. Door at front. Galvanized drum of heavy screen with 3 baffles.

3 wire, 230 volts, 60 cycles, 4600 watts (4958). Controls: heat control, marked Low, Med., High; timer, 0 to 60 minutes. Considerable lint found on floor in front of dryer. Quiet in operation. Listed by Underwriters' Laboratories, Inc. 3

Whirlpool Automatic Clothes Dryer (Gas), Model 91830 (Nineteen Hundred Corp.) \$250. Cabinet, 35.3 in. high, 29.2 in. wide, 27.5 in. deep. Door at front. 2 wire, 115 volt, 60 cycles, 6 amperes (280): rated to burn gas, at a rate of 20,000 Btu per hour (Btu value of manufactured gas used, 540 Btu per cu. ft.). Machine does not operate with door open (desirable). Gray enamel drum with 3 baffles. Controls: temperature control, marked Damp, Normal Dry, Rugs; timer, 0 to 60 min. Efficient lint trap. Quite noisy in operation. An ultraviolet lamp, supposedly to supplement the sterilizing effect of the drying process, is included. Approved by the American Gas Association. Slight shock hazard, not considered excessive (leakage current, 0.6 ma.). 3

C. Not Recommended

RA-Dryer (Radiant Heater Corp., 1 E. 35 St., New York 16) \$99.50. An electric, radiant glass-plate dryer. Cabinet, 36.5 in. high, 36.2 in. wide, and 25.0 in. deep with a hinged top cover. 2 wire, 115 volts ac-dc, 1326 watts (1415). This dryer was of an entirely different design from the others tested and accommodated less than half the weight of material; it took much longer to dry the clothes. The extra time is due to operation at the lower voltage of 115 v. and less power input. It holds less because clothes are hung on 20 stainless steel rods, each close to 1½ ft. long, and the clothes must be placed so that as much air as possible can circulate by them. Damp-dry weight of test load was 7.4 lb. which consisted of 3.7 lb. of dry clothes with 3.7 lb. of water. Controls: On-Off switch with indicator light. As there are no moving parts, this dryer is noiseless in operation, and removes no lint from the clothes. The *RA-Dryer* needs no special wiring and may be plugged into an ordinary outlet provided that no other appliance is on that branch circuit. Compared to the 230-volt tumbler dryers, this one may be more costly to operate, partly because of the fact that many homes using a dryer of this type will be paying a higher rate for electricity, for reasons discussed in the text. This is the only dryer that did not have any name plate; one should always be securely attached to any appliance to inform on voltage, current, and other essential information. Slight shock hazard but not considered excessive (leakage current, 0.3 ma.). Dryer is not thermostatically controlled (undesirable). 2

Corrections and Emendations to Consumers' Research Bulletins

Mixed Pigment
Prepared Paint
Page 19, Col. 2
Apr. '50 Bulletin

Delete *B-Intermediate* listing of *Seroco Master-Mixed No. 143 White* (Sears, Roebuck & Co.). Add the following listings:

A. Recommended

In col. 1:

Master Mixed No. 143 White (Sears, Roebuck & Co.) 4 lb. of oil per gal. (Colored paints of this brand are not recommended; see below.)

In col. 2, after *B-Intermediate* listings:

C. Not Recommended

Sears Standard Quality No. 243 White. Type 5. 3½ lb. of oil per gal.
Master Mixed. Colored. Type 5. 3½ lb. of oil per gal.

*Crestwood
Magictape
Recorder*
Page 23, Col. 1
May '50 Bulletin

The complete address of the Crestwood Recording Corp. is 624 W. Adams St., Chicago 6.

Power Lawn Mowers

IN RECENT YEARS there has been a large increase in the use of power mowers by home owners. Many of the makes now offered leave much to be desired in the way of ease and convenience of operation and servicing, freedom from breakdowns and general usefulness. Some makes are essentially the same as they were many years ago; on some no effort appears to have been made to eliminate such obvious faults as omission of guards for the roller chain drives and changes in design to prevent grass from winding around the axles of the cutting reel when grass somewhat higher than normal is cut. Figure 1 illustrates the annoying and troublesome grass-winding defect.

All of the mowers tested did a satisfactory enough

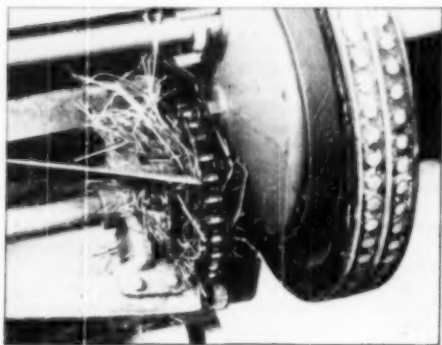


Figure 1

job of cutting grass 2 to 3 inches high, but in the opinion of CR's engineers, they did not do as good a job as a 10-year old lawn mower of the type shown in Figure 2, which had large heavy rollers in the rear to provide the traction and roll the lawn at the same time. Mowers using this excellent type of construction seem to be available now only in the larger sizes for estates, public grounds, parks, and golf courses.

The majority of the mowers tested were equipped with Briggs & Stratton or Clinton 4-cycle engines. (Mowers equipped with 2-cycle engines were not included, as CR has found in previous tests that 2-cycle engines, in which lubricating oil is required to be mixed with the gasoline, produce considerable exhaust smoke, which is unpleasant and under unfavorable conditions could be a hazard to the health of the operator.)

All of the engines were easy to start when properly adjusted and we believe that if they are given proper care they should have a long life.

The reel blades and cutter bars of 8 of the mowers met Federal Specifications for hardness of these parts. The cutter bar of the *Reo Royale* could not be checked as its shape was such that it was not possible to measure its hardness with either the Rockwell or Ames hardness tester.

Almost all of the mowers had rubber handle grips; these were judged much less desirable than wood, particularly on the mowers whose handles were rigidly connected. The vibration and shock transmitted to the handles were so severe with at least one mower as to result in the rubber handle grips causing blisters on the operator's hands unless gloves were worn. Practically all the mowers except the *Reo Royale* would have been greatly improved by closer attention to guarding of belts and especially of chains; better enclosing would have been desirable both for safety and to reduce tendency to clogging by grass and weeds.

Unless otherwise noted, the cutter bars were adjusted by means of opposed screws which were not too readily accessible. Ratings are cr50.

A. Recommended

Toro Sport Lawn 21 (Toro Mfg. Corp., Minneapolis) \$114.95. Mower: width of cut, 21 in.; height of cut adjustable from $1\frac{1}{2}$ in. to $1\frac{3}{4}$ in. Cuts per ft. of travel (i.e., number of reel knives passing over cutter bar for each ft. of travel of mower), 10.1. (Federal Specifications require a minimum of 10 cuts per ft.) V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel. Chain drive fully enclosed by guard (very desirable). Lacked hooks for attaching grass catcher. General lubrication through oil cups and oil holes. Ratchet housing and gear teeth require repacking with grease once a year. Handle could be adjusted to suit height of operator, and had small amount of up-and-down movement (desirable, as it reduced amount of vibration and shock transmitted when ground was not level). Rubber handle grips. Engine: Briggs & Stratton, Model 6S, 4-cycle; rated hp., 1.6 at 3200 rpm.;

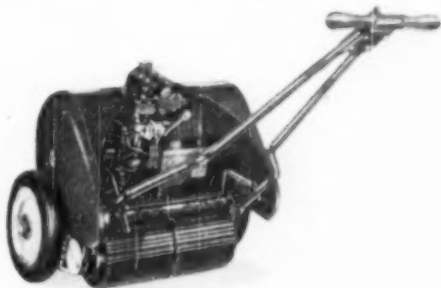


Figure 2



Toro Sport Lawn 21



Eclipse Rocket



Craftsman 21

V-belt is used for clutch, split "V" pulley in which pulley makes contact with sides of belt when clutch is in; rope pull starter. Cutting speed controlled by hand throttle. Maximum speed, 4.3 m.p.h. Weight, 95 lb. (fairly light). A very well-made and well-finished mower. 2

* * *

The following mower was judged not as desirable as the *Toro Sport Lawn 21* because of its exposed chain.

Eclipse Rocket (The Eclipse Lawn Mower Co., Prophetstown, Ill.) \$114.50. Mower: width of cut, 20 in.; height of cut adjustable from $\frac{3}{4}$ in. to $1\frac{1}{2}$ in. Cuts per ft. of travel, 8.8 (below Federal Specification requirements). V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel. Chain not guarded (desirable for safety and to prevent clogging). Reel axle subject to clogging with grass. Equipped with bracket for power sharpener unit (available at extra cost). Handle adjustable for height and not rigidly connected (desirable). Rubber handle grips. Cutter bar adjusted by spring-loaded opposed screws which were readily accessible. Lubrication through oil cups. Engine: Briggs & Stratton, Model 5S, 4-cycle; rated hp., 1.1 at 3200 rpm.; clutch, friction type; rope starter. Cutting speed controlled by hand throttle. Maximum speed, 3.7 m.p.h. Weight, 118 lb. (relatively heavy). A sturdy, well-made mower; previous models

have given a good account of themselves in practical use over a period of years. 2

B. Intermediate

Craftsman 21 (Sears-Roebuck's Cat. No. 99-8151; manufactured by Yard-Man Inc., Jackson, Mich.) \$109.50, plus freight. Mower: width of cut, 21 in.; height of cut adjustable from $\frac{3}{8}$ in. to $1\frac{3}{4}$ in. Cuts per ft. of travel, 10 (see listing of *Toro Sport Lawn 21*). Double V-belt drive from speed reducer to cutting reel; single V-belt drive at each side of cutting reel to each wheel. Handle not rigidly connected to mower (desirable) and had ample up-and-down movement to suit height of operator. Wood handle grips (very desirable). Cutter bar adjusted by opposed nuts on eye bolts. Wheels were very large, 14-in. diameter (in comparison to other mowers with wheels about 10 in. in diameter). Lubricated by removing wheels and pulleys and packing wheel and reel bearings with grease. Engine: Briggs & Stratton, Model 500, 306627, 4-cycle; rated hp., 1.68 at 3600 rpm.; clutch, slipping V-belt type engaged and disengaged by raising or lowering handle; rope starter. As no means were provided for disengaging drive to cutting reel, reel revolved constantly when engine was running. This is a serious disadvantage particularly when mower has to cross drives and walks where stones, etc., would damage the blades. Cutting speed controlled by hand-set throt-



Moto-Boy 20



Pennsylvania Model T-9



Reco Royale Model WD-21

tle on engine (judged inconvenient). Maximum speed, 5.4 m.p.h., but did not cut well at this speed. Weight, 116 lb. (relatively heavy). A ruggedly built mower but somewhat cumbersome and awkward to handle. 2

Moto-Boy 20 (The Moto-Mower Co., Detroit) \$119.50. Mower: width of cut, 20 in.; height of cut adjustable from $\frac{3}{4}$ in. to $1\frac{3}{4}$ in. Cuts per ft. of travel, 8.5 (somewhat low). V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel. Chain not guarded. Reel axle subject to clogging with grass. Handle, adjustable for height, rigidly connected to mower (undesirable). Rubber handle grips. Lubricated by 6 Zerk grease fittings. Grease gun provided. Engine: Briggs & Stratton, Model 55, 4-cycle; rated hp., 1.1 at 3200 rpm.; clutch, slipping belt type with idler pulley; rope starter. Cutting speed controlled by hand throttle. Maximum speed, 3.9 m.p.h. Weight, 109 lb. (about average). 2

Pennsylvania, Model T-9 (Pennsylvania Lawn Mower Div., American Chain & Cable Co., Camden, N.J.) \$119.75. Mower: width of cut, 21 in.; height of cut adjustable from $\frac{1}{2}$ in. to $1\frac{1}{2}$ in. Cuts per ft. of travel, 8.6 (somewhat low). V-belt drive from engine to jack shaft, roller chain drive from shaft to cutter reel. Chain not guarded. Reel axle readily clogged with grass. Lacked hooks for attaching grass catcher. Handle adjustable for height but rigidly connected to mower (undesirable). Rubber handle grips. Only mower tested which was equipped with a tool box. Lubrication: wheel and pinion bearings require repacking with light grease each season and gear teeth with heavy grease. Engine: Briggs & Stratton, Model 6S; rated hp., 1.6 at 3200 rpm.; clutch, split "V" pulley type; rope starter. Cutting speed controlled by hand throttle. Maximum speed, 4.3 m.p.h. Weight, 118 lb. (relatively heavy). 2

Reo Royale, Model WD-21 (Reo Motors, Inc., Lansing 20, Mich.) \$105.50. Mower: width of cut, 21 in.; height of cut adjustable from $\frac{3}{4}$ in. to $2\frac{3}{8}$ in. Cuts per ft. of travel, 8.4 (somewhat low). V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel; both drives were fully guarded (desirable). Handle adjustable; could be raised to almost vertical position to facilitate storage of mower but movement up and down resisted by a strong spring resulting in transmission of vibration to operator. Operation of mower would be much improved if spring were eliminated and handle permitted to have free up-and-down movement. Handle grips made of plastic. Cutter bar adjustment readily ac-

cessible and easy to operate. Lubrication: wheels must be removed and old grease removed and repacked with new grease each year (rather inconvenient, as wheel and pinion must be replaced as a unit). Engine: Reo, 4-cycle; rated hp., 1.5; clutch, slipping V-belt type; rope starter. Cutting speed controlled by turning clutch control handle. Maximum speed, 4.3 m.p.h. Weight, 86 lb. (very light). 2

Wards Master Quality (Montgomery Ward's Cat. No. 84-8022A) \$119.50, plus freight. Mower: width of cut, 22 in.; height of cut adjustable from $\frac{3}{4}$ in. to 2 in. Cuts per ft. of travel (i.e., number of reel knives passing over cutter bar for each ft. of travel of mower), 9.7. V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel. Chain not guarded. Reel axle readily clogged with grass. Handle could be raised to vertical position to facilitate storage and was not rigidly connected to mower (desirable). Rubber handle grips. Lubrication: jack shaft and cutter reel bearings greased through Zerk fittings. Wheel bearings had oil cups. Grease gun and oil can provided. Engine: Briggs & Stratton, Model 6S, 4-cycle; rated hp., 1.6 at 3200 rpm.; clutch, centrifugal type built into engine pulley; increasing speed of engine engages the clutch; rope starter. Speed controlled by hand throttle. Maximum speed, 3.4 m.p.h. Weight, 115 lb. (relatively heavy). 2

C. Not Recommended

Ideal New Victor, Model 776 AR (Ideal Lawn Mower Co., Springfield, Mass.) \$114.50. Mower: width of cut, $19\frac{3}{4}$ in.; height of cut adjustable from $\frac{3}{8}$ in. to $1\frac{1}{2}$ in. Cuts per ft. of travel, 8.9. V-belt drive from engine to jack shaft; roller chain drive from shaft to cutter reel. Chain partially guarded, sufficiently to prevent most clogging. End plates die cast, judged to be of weak construction. Handle not adjustable for height, but not rigidly connected (latter desirable). Rubber handle grips. Lubrication: through oil cups. Engine: Clinton, Model 776 AR, 4-cycle; rated hp., 1.5 at 3000 rpm.; friction clutch; lacked needed guard to prevent grass clippings clogging engine fan; rope starter. Cutting speed controlled by hand throttle. Maximum speed, 3.3 m.p.h. Weight, 99.5 lb. (below average). 2

Rotary Flat-Knife Mower

C. Not Recommended

Ride-A-Mower (Belknap Mfg. Co., Bridgeport, Conn.) \$169.50. Consisted of a metal platform with 3 rubber-tired wheels (2 small wheels at front coupled to handlebars for steering and 1 larger power-driven wheel in the rear). Seat was a bicycle-type saddle. V-belt drive from engine to gear box and from engine to 2 jack shafts, roller chain drive from jack shaft to rear wheel. Width of cut, 20 in.; cutting height adjustable from $1\frac{1}{2}$ in. to $3\frac{1}{2}$ in. by means of a threaded brass sleeve on drive shaft of cutter. Fit of shafts in bearings of gear box, very loose, hence poor life expectancy. Motor: Clinton, Model B700-52, advertised as 2 hp.



Wards Master Quality



Ideal New Victor Model 776 AR

but appeared to be same as motor used in *Ideal New Victor* which was rated at 1.5 at 3000 rpm. (a model advertised as 3 hp. is available at \$25 extra). Kick starter. Cutting blade is operated by hand control which moves smaller idler pulley to tighten belt; on sample tested belt was too long and sufficient adjustment was not available to tighten belt properly. Foot pedal operated a second idler pulley to tighten belt for forward motion. Defective throttle cable prevented running mower above 2.5 m.p.h. Arms supporting front-wheel swivel bearings were not rigid enough and bent readily so that wheels rubbed against them. Workmanship, judged mediocre.

Blade was well protected by skirts, and was judged safe to operate on reasonably level ground. This mower should never be used on inclines because of danger of tipping. If this occurred, serious injury could possibly result to operator. Did a satisfactory job of cutting grass but like others of its type left the cut grass in rows which required raking up. If improved in several respects might warrant a higher rating where it would be used on level ground only. Weight, 165 lb. Attachments available, but not tested by CR. were: roller, \$29.50; snow plow, \$19.50; dump cart, \$49.50; all plus freight.

Cleaning Rugs and Carpets on the Floor

*Through the courtesy of the copyright owner, the American Hotel Association, 221 W. 57 St., New York 19, we are permitted to reprint the following discussion of methods of cleaning carpets and rugs. This material was taken from the 29-page booklet, *Carpets and Their Maintenance*, which was prepared for the Association by the York Research Corp. in cooperation with the Carpet Institute, Inc., and the National Institute of Rug Cleaners, Inc.*

ON-LOCATION cleaning methods cannot, because of their very nature, entirely remove soil which is deeply impregnated in the pile or base of the rug. It is therefore important that carpets to be cleaned on-location should be vacuumed more frequently and more thoroughly than rugs which are to be cleaned on a wash floor by plant cleaners. Frequent vacuuming will reduce the amount of soil which penetrates to the base of the pile and will therefore make it possible for on-location cleaning to produce better results.

Rugs and carpets may partially "wet out" during an on-location cleaning process and if the floor covering has an inherent tendency towards shrinkage, a tension will be produced in the rug which will tend to pull it away from the walls. It is therefore important that floor coverings be tacked down firmly so that they will not pull away from the wall after cleaning in the event of shrinkage.

Shampoo Materials

The results of this investigation indicate that certain synthetic detergents are most suitable for location-cleaning.

Until very recently most location shampoo materials were made with soap base. At present, a large number of commercial compounds based on both soaps and synthetics are available. Soaps are not considered acceptable for on-location cleaning as a result of the work done in this project and other studies.

Specific points of disfavor are:

Indications are that soap residues left in carpeting contribute to an excessive reduction in wear-life.

Soaps create characteristic odors which are considered undesirable.

In general, soaps tend to increase the resoiling rate of cleaned carpeting.

The advantages of soap are:

Soap solutions wet out a rug more slowly and uniformly than most synthetic detergents.

Under some conditions the detergency of the best soaps is indicated to be somewhat better than that of the best synthetics.

From the standpoint of immediate appearance after shampooing, soap is satisfactory; and because of its characteristics during application, it is preferred by many location cleaners. However, its undesirable after-effects are objectionable. It is therefore considered the safest policy to use synthetic detergents only, but it does not follow that all synthetic type shampoos are suitable.

Some of the synthetics examined during this project were considered unsuitable because they contained deleterious ingredients, had poor cleaning power, or caused cleaned carpeting to resoil too rapidly. In addition, most synthetics are not so easily handled as soaps, although when properly used, they can give excellent cleaning.

As a group, the advantages of synthetics over soaps are:

Most synthetics are unaffected by hard water. Soap cleans poorly in hard water and will precipitate residues on carpeting which will detract from appearance.

Most synthetics do not leave undesirable odors in cleaned carpeting.

Synthetics, being neutral or only slightly alkaline, do not leave such harmful residues in the carpet and consequently do not decrease wear-life of the carpeting to the extent that soap residues will.

Most synthetic residues do not provide nutriment for microbial growth.

Residues of the satisfactory synthetic shampoos have less tendency to cause cleaned carpeting to become dirty again.

Whiskeys

WHISKEY is made by fermentation of one or more of several cereals, and subsequent distillation. It contains not less than 40 percent (80 proof) and seldom more than 50 percent (100 proof) of ethyl alcohol. The characteristic odor and flavor are derived from small amounts of acids, aldehydes, esters, furfural, and higher alcohols that are formed during the fermentation, distillation, and aging processes. The flavor of whiskey varies over a considerable range with variations of raw materials and the various steps in the process of manufacture. To ensure fermentation, some malt must be used; this is grain of any kind, that has been allowed to germinate. The quality of a whiskey is to a great extent proportionate to the amount of malted grain that is used in the mash; malted barley is much used in making whiskey.

Freshly distilled whiskey always has a "raw" taste which is modified and a disagreeable odor which is dissipated by aging in wood casks. The same aging process increases the quantities of the desirable flavor-producing constituents.

Scotch whiskey is made from malted barley that has been smoked over a peat fire; this produces the characteristic smoky flavor. It is aged in uncharred wooden casks, and thus less solid matter is extracted from the wood, than with those American whiskeys that are aged in charred casks. Caramel is usually added to Scotch whiskey to produce an acceptable color. It is understood that under the reciprocal trade agreement with Great Britain, all Scotch whiskeys entering this country must be at least 4 years old.

The desirable characteristics of American whiskey improve greatly during the first 4 to 6 years of aging; beyond that the improvement is negligible. Some authorities hold that after 10 years aging the whiskey deteriorates. American whiskey is required by law to be aged not less than two years in charred new oak containers; it must be bottled at not less than 80 proof. A bonded whiskey is a straight whiskey, usually either rye or bourbon, that has been aged for not less than four years, and to which nothing has been added after distillation except the amount of distilled water that is required to reduce it to 100 proof. The principal varieties of American whiskey are:

Straight rye or bourbon (of a single variety).

Blend of several straight ryes or of several straight bourbons.

Blends of one or more straight whiskeys with neutral spirits (alcohol).

The flavor of a whiskey that is blended with neutral spirits is always "lighter" than that of a straight whiskey or a blend of straight whiskeys; for that reason the blended ones are preferred by many.

Chemical analyses were made to determine the amount of the principal flavor-producing constituents of whiskey, but such data do not provide a certain guide as to whether a whiskey is "good" or "bad" in taste; that must remain a matter of the opinion of the drinker, and drinkers' views on questions of most desirable flavor, aroma, etc., do not agree at all well. The values for extract, esters, volatile acids, total acids, and aldehydes all increase with higher quality and greater age in whiskey. The content of higher alcohols (often called fusel oil) and of furfural is considered to be the best index of the proportion of malt whiskey contained in a blended whiskey.

None of the whiskeys analyzed for CR were found to contain any methyl (wood) alcohol or other dangerous adulterants; all showed some copper, but a satisfactorily small amount (the average was 0.5 ppm., and none were as high as one ppm.). It is interesting to note that the copper content of the whiskeys in this test ran much lower than in tests made in 1940, and the highest figure for copper in the present test corresponded to about the minimum in the 1940 brands.

Tests by several tasters were made for aroma and taste. In the listings, the figures for proof in parentheses are those claimed on the label.

The prices given may be found to be different by significant amounts from those in stores available to many of our readers. (We have noted that in two cases where comparisons were made, they are considerably under prices shown on liquor displayed in a window of a large New York City dealer.) They are, however, the actual prices paid in a large Ohio city. Regardless of such discrepancies, it is reasonable to assume that the prices will be useful in a relative sense.

Anyone who wishes to study the subject of alcoholic liquors and the way in which they are made and blended, and the factors which determine quality, will find the well-known book by Karl M. Herstein and Morris B. Jacobs, of interest. This has the title, "Chemistry and Technology of Wines and Liquors," and is published by D. Van Nostrand Co., New York City (second edition, 1948).

Ratings are cr50.

Scotch Whiskeys

A. Recommended

"Black & White" (James Buchanan & Co., Ltd., Glasgow, Scotland) 4/5 qt., \$4.81. 43.5% alcohol, 87 (86.8) proof. Aroma and taste, judged good.

Haig & Haig Five Star (Haig & Haig, Ltd., Edinburgh, Scotland) 4/5 qt., \$4.81. 43.5% alcohol, 87 (86.8) proof. Aroma and taste, judged good.

Dewar's "White Label" (John Dewar & Sons, Ltd., Perth, Scotland) 4/5 qt., \$4.92. 43.5% alcohol, 87 (86.8) proof. Aroma and taste, judged good.

Teacher's "Highland Cream" (Wm. Teacher & Sons, Ltd., Glasgow, Scotland) 4/5 qt., \$4.88. 43.2% alcohol, 86.4 (86) proof. Aroma and taste, judged satisfactory.

B. Intermediate

Fat 69 (Wm. Sanderson & Son, Ltd., Leith, Scotland) 4/5 qt., \$4.82. 43.4% alcohol, 86.8 (86.8) proof. Total acids, below average. Aroma and taste, judged below average.

Martin's V.V.O. (James Martin & Co., Ltd., Leith, Scotland) 4/5 qt., \$4.85. 43.5% alcohol, 87 (86.8) proof. Extract, total acids and volatile acids, lowest of Scotch whiskeys tested. Aroma and taste, judged somewhat below average.

Straight Rye

A. Recommended

Old Overholt (A. Overholt & Co., Inc., Broadford, Pa.) 4/5 qt., \$5.59. 49.9% alcohol, 99.8 (100) proof. Approximate age, 4 years. Aroma and taste, judged good.

Rittenhouse (Continental Distilling Corp., Philadelphia) 4/5 qt., \$3.85. 49.95% alcohol, 99.9 (100) proof. Approximate age, at least 4 years. Aroma and taste, judged good.

B. Intermediate

Old Crow (National Distillers Products Corp., Frankfort, Ky.) 1 pt., \$3.73. 50% alcohol, 100 (100) proof. Approximate age, 4 years. Total acids, volatile acids, and aldehydes, somewhat low. Aroma and taste, judged good.

Blended Straight Whiskeys

A. Recommended

Fine Arts (Fine Arts Distilling Co., Baltimore) 4/5 qt., \$4.66. 45.05% alcohol, 90.1 (90) proof. Approximate age, 5 years. Aroma and taste, judged satisfactory.

Old Classic (Continental Distilling Corp., Philadelphia) 4/5 qt., \$3.22. 42.8% alcohol, 85.6 (86) proof. Approximate age, 4 years. Aroma and taste, judged good.

Blended Whiskey (containing neutral spirits)

A. Recommended

Calvert Reserve (Calvert Distilling Co., Louisville, Ky.) 4/5 qt., \$3.21. 43.5% alcohol, 87 (86.8) proof. Aroma and taste, judged good.

Four Roses (Frankfort Distilleries Inc., Louisville, Ky.) 4/5 qt., \$3.50. 45.35% alcohol, 90.7 (90.5) proof. Aroma and taste, judged good.

Three Feathers (Three Feathers Distilling Co., Lawrenceburg, Ind.) 4/5 qt., \$3.09. 43.5% alcohol, 87 (86.8) proof. Aroma and taste, judged good.

B. Intermediate

Carstairs White Seal (Carstairs Distilling Co., Louisville, Ky.) 4/5 qt., \$2.82. 43.3% alcohol, 86.6 (86.8) proof. Aroma, good; taste, judged only fair.

Golden Wedding (Joseph S. Finch & Co., Lawrenceburg, Ind.) 4/5 qt., \$2.90. 43.1% alcohol, 86.2 (86) proof. Aroma, good; taste, judged only fair.

Mount Vernon (National Distillers Products Corp., Cincinnati) 4/5 qt., \$2.80. 42.9% alcohol, 85.8 (86) proof. Aroma, good; taste, judged only fair.

Straight Bourbon

A. Recommended

Ancient Age (Ancient Age Distilling Co., Frankfort, Ky.) 4/5 qt., \$4.33. 42.95% alcohol, 85.9 (86) proof. Label claimed 5 years old. Approximate age, judged about 4 years. Aroma, good; taste, judged fairly good.

Old Quaker (Old Quaker Distilling Co., Lawrenceburg, Ind.) 4/5 qt., \$3.68. 42.95% alcohol, 85.9 (86) proof. Approximate age, 5 years. Aroma and taste, judged good.

Walker's DeLuxe (Hiram Walker & Sons, Inc., Peoria, Ill.) 4/5 qt., \$4.33. 42.9% alcohol, 85.8 (86) proof. Approximate age, 4 years. Aroma, good; taste, judged fair.

B. Intermediate

Old Mr. Boston "Spot Bottle" (Mr. Boston Distiller, Inc., Boston) 4/5 qt., \$2.95. 43% alcohol, 86 (86) proof. Approximate age, about 3 years. Extract, total acids and volatile acids, somewhat low. Aroma, good; taste, judged fair.

Blends of Straight Bourbon

A. Recommended

My Personal Choice (Mr. Boston Distiller, Inc., Boston) 4/5 qt., \$3.95. 42.8% alcohol, 85.6 (86) proof. Approximate age, 4 years. Aroma and taste, judged satisfactory.

Private Stock (Park & Tilford Distillers of Kentucky, Inc., Louisville, Ky.) 4/5 qt., \$4.03. 43.1% alcohol, 86.2 (86) proof. Approximate age, 4 years. Aroma and taste, judged satisfactory. Label claims: Not less than 95% straight bourbon whiskeys and 5% other straight whiskeys.



This is not an effective way to mothproof garments — it is effective only against insects that come into actual contact with the poison.

Clothes Moths

Some Suggestions on Prevention and Control

PERHAPS one should approach the problem of control of clothes moths with the same misgivings one should have in entering on a discussion of religions, for there are cults without end in this field, too. If you want to look, you can find the Printers' Ink School, The Cedar Chest and Shavings Cult, The Moth Ball School, The Gum Camphor Group, The Turpentine Crew, The Kill All Moths Quickly by any Means Society, The Gadgets and Squirters of America (Moth Division), and many others. Some of the schools are quite old; they can trace their beginnings back to Pliny, the Elder, a Roman, who among other things dabbled in pest control. The Kill-All-Moths and The Gadgets-and-Squirters are probably the most expensive sects to belong to.

We know of one instance where carpets, upholstery, closets, and so on were sprayed to the tune of \$150 with no results. The householder still saw moths. Subsequent examination of the premises revealed that the moth which was flitting around was the Indian-meal moth. If only the long-forgotten, half-consumed box of corn meal, way back on the top kitchen shelf, had been removed — but we must not dwell on the mistakes and misfortunes of others, for we will be encroaching on a field which we are told is reserved to the humorist. The point is that unless you have a heavy infestation you are not likely to see the clothes moths flying around. They are poor flyers, and they seek darkness.

Aerosol bombs, atomizing sprayers, and the spraying attachments of a vacuum cleaner dis-

persing insecticidal solutions can at best, like brushing, be considered only a help in moth control. Because of their strength and the method of application these sprays are technically known as "contact sprays." The insects which you directly hit with them will eventually die; that is all. They afford no *residual* killing power. If you want continued protection you must keep on with your inspections and your aiming and firing. Furthermore, spraying should be done with care — with much more care than consumers usually do it. Not only are insecticides toxic, but the solvents, diluents, emulsifiers, and the like may also have ill effects on human beings. For example, many of the solvents used with DDT and other insecticides have a defatting effect on the skin. Some individuals have a particular sensitivity to insecticide materials. Sprays containing flammable solvents should never be used where there are open flames or fire of any kind.

The effectiveness of vaporizing gadgets and vacuum cleaner attachments for vaporizing paradichlorobenzene and naphthalene is questionable unless the enclosure in which the vapors are released is tightly sealed and the volume of the gas released is in the proper amount for the space enclosed and for the proper length of time. Paradichlorobenzene and naphthalene will volatilize without assistance; however, volatilization is quicker, and smaller amounts of the chemicals are required, if crystals or flakes, rather than balls or compressed cakes, are used.

The danger in the use of all these contrivances

is that the user is very often lulled into a sense of false security which is abetted by tricky but within-the-law advertising.

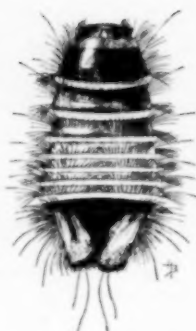
In all the maze of advice, articles, and advertising on the subject of clothes moth control, too little emphasis has been placed on two items, very well established by entomologists:

1. Clean woolens, rugs, and fabrics, and woolens soiled only by perspiration do not provide adequate food for moth larvae.

2. In many sections of the United States, *carpet beetle larvae* are responsible for as high as 90 per cent of all the fabric damage.

The first essential in the prevention of moth damage is keeping your fabrics clean. For rugs and upholstery, your best aids will be a good brush, a good vacuum cleaner, and a good scheduling of the work to be done; for clothing, frequent brushing and, of course, dry cleaning; for blankets, dry cleaning and/or washing as the manufacturer may recommend. Include in your vacuum cleaning schedules at least twice a year, and more often if your inspection proves it to be warranted, the underside of your rugs, both sides of the pad, if any, and the floor underneath, paying particular attention to the cracks between boards. If necessary use a knife to clean out lint deposits. Loosen the muslin on the underside of upholstered furniture and vacuum clean inside. Use the soft brush attachment of your vacuum cleaner on the inside of the piano. Piano felts are very often the point of beginning of an infestation. Do not neglect baseboards nor any of the cracks and crevices around a fireplace. Remove radiator covers and clean the radiators thoroughly; be sure to clean under the riser-pipe floor plates. Fireplace and radiator areas, because of heat transference, can provide optimum temperature conditions for moth and carpet beetle larvae. Look behind the built-in bath tub, if you can. Include closets in your schedules, and, while you are doing them, do not be averse to hanging clothing outdoors, if you have the facilities, and your section does not have a smoke nuisance to contend with. Turn coat collars up, pockets inside out, and trouser cuffs down. Brush the garments, and let them air.

There is no objection to sending rugs and upholstery fabrics out to be dry cleaned or "shampooed."



The Varied Carpet Beetle — larva and adult. An important museum pest, particularly in insect collections; presence in United States noted in middle of 19th century.

However, if you have not already established a satisfactory connection for having this work done, use care in making your choice. Some dry-cleaning and "shampooing" applications, while they do clean, make the fabric more susceptible to resoiling in normal use. Be careful if you have foam rubber in your furniture, for there are few dry-cleaning compounds which will not injure the rubber. Some manufacturers of rugs and upholstery fabrics issue booklets containing advice on the care of their products. These are generally available at your furniture dealer. It is believed that you would do well to follow their suggestions, particularly if you have purchased a mothproofed fabric.

Thoroughness in house cleaning is a keystone in moth and carpet beetle control and damage prevention. One writer has dismissed the whole subject of damage by bluntly laying the cause of trouble to entrusting this work to careless maids and/or "the man of the house," who are likely to clean only "where it shows." (We in America are inclined to place too much trust in the superficial aspects of sanitation — we like the sheen of our stainless steels, our white paints, and our tiled bathrooms with built-in tubs that in many homes you cannot get behind to clean, much less fix the plumbing without tearing out a wall. Slip covers and carpeting wall to wall please the eye, but they also provide additional darkened areas for the insects that cause fabric damage to work in unobserved.)

As you know, there are many name brands of chemicals on the market claiming to be "mothproofers." Most of them are, when properly applied, but the implication that a dollar and ninety-eight cents worth of the stuff blown on a fabric is of sound value or that you can do a satisfactory job yourself, by following directions on the bottle, is to be deplored. Skills and practice in this work are essential requirements. In order to be of practi-



The Webbing Clothes Moth — adult and larvae. Causes most moth damage. Adult: shiny golden in color without spots on wings.



The Black Carpet Beetle — larva and adult. Most widespread and destructive of the carpet beetles in this country.

cal value, the fibers in the fabric must be *wet through*, for many of the insects attack the fabric from the back. If you decide to have your home furnishings mothproofed, most certainly you will want to investigate and pick a reliable firm to do the work. In your discussions with them consider these things:

1. The chemicals usually used in this work are the silico fluorides, the thiocyanites, DDT, chlordan, benzene hexachloride (lindane), toxaphene, and pyrethrum. The U.S.D.A. warns against the use of the arsenicals (which have been in wide use, under well-known and advertised trade brands).
2. The silico fluorides are usually in water solutions; the others in oil. If water solutions are to be used, look at the label to be sure there is a wetting agent included to insure penetration through the fabric.
3. Question whether there will be bleeding of colors, pile distortion, and what the feel of the fabric will be after the application.
4. Question whether there will be staining and/or odors.
5. Question the possibilities of mildew and shrinkage. Mildew seems to be tied up with an excess of water, and shrinkage with application of excessive amounts.
6. Some applications make for a quicker resoiling of fabrics in normal use. Toxaphene and chlordan seem to be questionable from this point of view.
7. Question the possibilities of injury to furniture and woodwork and the corrosion of metals.
8. Question if permits under local fire regulations or health regulations are required.
9. Question what the *residual values* of the treatment will be against moth larvae, against carpet beetle larvae. Some firms will state that they give guarantees. If they do, look into the guarantee carefully. Quite frequently these do not mention carpet beetles, and in toto they merely mean that if a moth reinfestation occurs, the firm will re-treat, without charge, portions or all of the fabrics originally treated.

In considering the purchase of new furniture or rugs it may be that the premium you might pay for fabrics "mothproofed" while they are in the process of being manufactured, where the hot-bath method of application is used, could be of economic value to you. This assumes that you will be able to care for the fabric in the ways that the manufacturer suggests and that you live in an area where moths are a real problem.

If you are going to store winter apparel, be sure it is *clean*. It is preferable to send it to the dry cleaners. If this is impossible, inspect for spots, and clean. Hang garments outdoors and brush as already suggested. Place the woollens in containers that can be tightly sealed, using Scotch tape or masking tape on closure joints for better effectiveness. In packing, place paradichlorobenzene crystals on the bottom of the container and cover with a sheet of newsprint, place in more crystals, cover with another sheet of newsprint, add another garment, and continue on until the container is filled. Before sealing, place a sheet of newsprint on top of the garment and place crystals on it. If the articles are bulky, the crystals can be packed in any folds which are necessary. You may omit the newsprint in packing if you care to, but it has been found that it produces better results. Naphthalene (flakes) may be used in place of paradichlorobenzene.

The *minimum dosages* are: paradichlorobenzene, 1 lb. to 100 cu. ft.; naphthalene flakes, 4 lb. to 100 cu. ft.; and naphthalene balls, 10 lb. to 100 cu. ft. The U.S.D.A. recommends using one pound of either paradichlorobenzene or naphthalene in a trunk. The chemicals are relatively cheap, and it is better to overdose and be safe.

The effectiveness of these chemicals in closets has been spotty due to the fact that one does not ordinarily make and maintain a tight seal. Hanging a cake or a container of paradichlorobenzene or naphthalene in a closet that is in more or less regular use is of no value. The use of clean cloth-



The Case Making Clothes Moth — adult and larvae. Found in northeastern states and Canada. Adult of more brownish hue than webbing clothes moth, with three dark spots, often indistinct, on wing. Larvae build cases around themselves into which are woven some of the fibers on which they are feeding. When they move, the case moves with them.



The Tapestry or Carpet Moth — adult. Rare in United States. Adult larger than the other two clothes moths; has white head; first third of forewings black, remainder white, mottled with black and gray. Larvae fashion silken tubes or burrow through the material on which they are feeding.



The Common Carpet Beetle — adult. Widespread throughout United States. Has common name of "buffalo bug" or "buffalo moth."

ing bags that can be tightly sealed accomplishes much better results.

Furs may be stored in the manner outlined, but because of their value, you will probably feel safer, and perhaps rightly so, if you follow the advice of your furrier and use a reliable cold storage.

In spite of all your efforts at prevention, you may find your defenses penetrated. The first bit of evidence of moths will probably be fabric damage. Now, a careful search of your home for the source of infestation will be in order. Moth larvae usually leave on the cloth the webbing under which they have been feeding. Carpet beetle larvae damage is clean, so to speak; however, in the feeding area you are likely to find cast skins. The source may be any one of the following: a forgotten pair of woolen socks or an old sweater in a drawer; the space inside the cuffs of a pair of infrequently used trousers; a stored fur piece; dust or lint in the floor cracks and baseboards or shelving or in the folds of upholstered furniture or inside it; under slip covers; in the piano felts; in some accumulations of dog or cat hairs in the basement; or possibly the dead rat or mouse that wasn't removed when you last exterminated these pests. (This list is not all-inclusive.)

Bear in mind, too, that the black carpet beetle is also a pest of stored grains. If this is your infestation, check the pantry shelves. In your searching, keep in mind that moth and carpet beetle larvae shun light. Carpet beetle larvae move rapidly from lighted to darkened areas. The use of a flashlight and night inspection is the best method of procedure. Adult carpet beetles are attracted to light, and they are often seen about the house, generally at windows. Some refer to them as buffalo bugs, although this appellation rightfully belongs only to the common carpet beetle.

In truth, there is little chance that you will have an easy way out of your problem. And when one considers the damage possibilities and the persistence you will probably have to have to rid yourself of these pests, you might be ahead pocket-wise, if your investment in woolen clothing and fabrics is substantial, if you seek the advice and services of a reliable pest-control operator in the first instance.

Dry cleaning or washing with strong solutions of neutral soaps will kill all forms of moth and carpet

beetle life present in the fabrics at the time the work is done. These processes, however, afford no residual protection. It will often be advantageous to treat the cracks and crevices in the structural areas adjacent to or surrounding the infested areas.

First, vacuum clean all the areas you intend to treat. In the case of a chest of drawers, remove the drawers and treat the inside of the chest and the outside areas of the drawers, too. Provide yourself with a pair of neoprene-covered canvas gloves (for sale in hardware stores from 75 cents to \$2, depending on style), a paint brush (about 3 inches), a small mechanic's oiler with a 45° bend in the spout, and a can large enough to permit dipping of the brush. As an insecticide, use either a 5 percent solution of DDT or a 2 percent solution of refined chlordan (not the agricultural grade — that really has quite an odor). Purchase chlordan solutions packed in glass only, as the chemical strength deteriorates rapidly when packed in ordinary metal containers. Under a wider range of conditions, the DDT solutions will give longer residual values. Because of fire and toxicity hazards, the water emulsions of the chemicals are to be preferred over the oil solutions. In using either one of these chemicals, follow the manufacturers' caution recommendations — wear the gloves when handling or working with the solutions.

Paint the material you have decided to use into the cracks and crevices and over as much of the wooden surfaces as you can, remembering that you are not skilled in this work and that there may be some staining. You will find the oiler a useful adjunct to insure better penetration of horizontal cracks, such as those under one-quarter round strips and baseboards. Do not spray these materials or any others based in oil with atomizing type of sprayers. First, the inhalation of the solvents used for the chemicals, caused by the mist you are bound to create, may give you a very uncomfortable feeling, with possibilities of serious toxic effects — and, secondly, you need an application that will leave a residue effective for the future, which this type of sprayer cannot easily give.

Inspect the areas at intervals, for more than one application of this type is often required, and you may discover that you will have to extend the scope of the work.



The Furniture Carpet Beetle — adult. A destructive household pest first observed in Washington, D.C., now being reported in many cities on the eastern seaboard.

Upholstered furniture should be sent to concerns for chamber fumigation. If it contains foam rubber, be sure to advise them, for some fumigants leave an obnoxious odor in the rubber which may persist for some time. If you live in the northern states, the pieces may be set out overnight in near zero weather, then brought in the house again, and then set out again for one to two days. Dr. E. A. Back, formerly of the Bureau of Entomology and Plant Quarantine, recommended that 2 to 3 lb. of paradichlorobenzene be scattered on the furniture, and that several blankets then be wrapped tightly around the piece, leaving it undisturbed for 48 hours at 70°F or higher. It is best not to do this with furniture containing foam rubber. These chemicals and particularly paradichlorobenzene may cause marked damage to rubber.

For the piano, you may hang muslin bags con-

taining paradichlorobenzene inside the case. Close all openings in the case, and if possible, keep them closed all summer. Do not allow paradichlorobenzene crystals to come in direct contact with the strings. Do not spray or paint any material into the instrument without being sure that there will be no damage to the strings.

So far, no one has found a substitute for the hard, thorough, intelligent work which moth and carpet beetle control require. Despite the implications of many who quite frequently have some items for sale, there are no "cure alls" for the clothes moth problem.

Illustrations of moths and beetles are reproduced through the courtesy of the U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine.

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Synthetic Detergents for Home Laundering

SYNTHETIC DETERGENT is the name commonly given to a kind of soapless cleanser that first became widely available for ultimate consumer use during the last war. Unfortunately, most manufacturers do not label these products as synthetic detergents, and the consumer may, therefore, not realize that the product he is using is not a soap, and that it has quite different properties. (An exception is the *Vel* label which reads: "A Neutral Sulfated Monoglyceride Detergent.") If the label, however, states that the product is "not a soap" or claims "no hard water scum," it will usually be safe to assume that the product is a synthetic detergent.

Synthetic detergents have an important advantage over soaps in washing wherever water is hard, because they do not produce sticky insoluble calcium or magnesium curds in hard water. They will also clean in an acid solution or an alkaline one, and even in salt water. Some of the synthetics form suds readily, as soap does, whereas others do not. With a synthetic detergent, however, lack of suds does not necessarily indicate lack of cleansing power; with soap, lack of suds indicates that the soap is "used up" and that effective cleansing action has stopped.

Homemakers who live in an area where the water supply is hard, and who do not have a water softener, will usually find synthetic detergents convenient and economical to use. Soap can be used in hard water, but it will be uneconomical and washed clothes will come to have a gray look from the curds deposited on them, unless a water softener is used or the soap product contains suitable builders in the right amount. (Builders are materials added to soaps and synthetic detergents to counteract the effect of minerals in the water and to increase the detergency of the washing solution.)

Synthetic detergents can be classified as light-duty and heavy-duty detergents. Light-duty synthetic detergents are intended for washing fine fabrics, such as woolsens, silks, and nylons, for dishwashing, and for general household use such as cleaning windows, and other uses where the hands must be immersed in the solution. They are, however, not satisfactory for doing the general household wash, since they will not clean cottons properly. Light-duty synthetic detergents contain about 30 percent of the synthetic detergent and are built mainly with neutral inorganic salts, especially sodium sulfate. Like ordinary water, they are nearly neutral in solution and hence free from

either acid or alkaline reaction.

Heavy-duty detergents are built with alkaline salts to improve cleansing effect on cotton and linen, and hence they are effective detergents to use for the family wash. They can also be used for other household cleaning, although they should be employed with care, just as any heavy-duty or "laundry" soap should be used with caution on delicate or colored fabrics, or on paints and varnishes.

Tests recently carried out by chemists of the Bureau of Human Nutrition and Home Economics have shown that in hard water the synthetics did a better cleaning job than soap on both cotton and wool fabrics. In soft water, soaps and light-duty synthetic detergents cleaned wool equally well, but heavy-duty detergents were more effective than soap. In soft water, soap, however, was found to do a better cleaning job on cotton than synthetics.

Certain factors will affect washing performance in actual laundering operations; these are the weave and finish of the article being washed, the time and temperature of the wash, the concentration of the detergent, the type of soil being removed, the effect of hardness and other material in the water, among other things.

The synthetic detergents listed in this report were analyzed chemically and were also compared as to washing efficiency by running simultaneous wash tests in a Launder-Ometer. This machine rotates 20 jars end-over-end in a bath of water at fixed temperature. In each jar were a piece of standard soil cloth (cotton or wool), clean cloth, wash solution, and monel metal balls to provide agitation or "load."

The test method gives comparative results, but there are certain limitations that apply to any laboratory test for detergent efficiency. Practically this means that results obtained in laboratory tests cannot always be correlated with the results obtained in washing in the home. To make these comparative determinations as useful to the housewife as possible, one run was made in soft water (hardness 2 grains per gal. or about 35 parts per million) and the second in hard water (hardness, 15 grains or about 255 parts per million). Furthermore, two different cotton soil cloths were used in the tests of heavy-duty detergents. In general, results on the two cloths were in good agreement.

The following discussion may make the meaning of the analyses as reported by the chemist more clear. Synthetic detergents which are suitable for

laundering can be classified as sulfates and sulfonates of six types, but generally chemists call them salts of sulfated and sulfonated alcohols, esters, and amides. Each of these chemicals has its own values as a cleanser:

Many synthetic detergents contain large amounts of sodium sulfate and some sodium chloride as well. These salts help somewhat in cleaning, but they have no effect in softening the water, as alkaline builders do in soap and powdered soaps. Some of the alkaline salts which are used to build heavy-duty detergents are silicates, sodium carbonates, sodium tetraborates, and polyphosphates. Sodium tripolyphosphates and tetrasodium pyrophosphate are only mildly alkaline, but they are especially effective in promoting cleansing action on cotton. Silicates and carbonates are useful in dirt removal and act as water softeners. Sodium carboxymethylcellulose (CMC) is an anti-graying agent added to reduce the tendency of loosened soil to redeposit on the fabric and thus to turn the clean portion gray.

Many of the new detergents also contain a small amount of fluorescent dye for the purpose of counteracting the yellow tints that sometimes develop in fabrics. Although they are intended to make fabrics whiter, some of them may, if used in doses

that are a little too large, give a peach hue to white clothes in time, and some which are sensitive to light or chlorine, or both, may cause yellow discoloration of white fabrics.

Advertising that synthetic detergents do not need to be washed out of garments or other textiles must be questioned, for omitting the rinsing operation will leave some soil and detergent on the cloth, and this cannot help but be disadvantageous and cause deterioration of the appearance and feel of the fabric. CR has been comparing this washing method with the conventional wash and rinse method. Half of the clothes in this test are worn and then washed and rinsed in an agitator-type automatic washing machine and dried in an electric clothes dryer. The other half is worn, washed in the same washing machine but not rinsed, and dried in the same dryer. Final results are not yet available, and it should be remembered that a study of this kind, to be reliable, will require some months of work. Results of this test will appear in a later CR BULLETIN.

For the benefit of readers who are interested in chemical analyses, these are presented in brief form in Table I. (Readers should remember that the compositions of detergents change frequently, hence

Table I — Chemical Analyses of the Synthetic Detergents Tested

BUILDERS											
Product	Identification of Detergent	Sodium Sulfate		Sodium Carbonate	Sodium Chloride	Sodium Phosphates		Sodium Silicates	CMC	pH	Fluorescent Dye
		%	%	%	%	%	%	%			
Breeze	(1)	30	64	0.9	4.6	—		—	—	6.8	present
Dreft	(2)	29	57	—	5.5	acid pyro 6		—	—	7.7	present
Swerl	(2)	33	64	—	0.9	—		—	—	5.4	—
Vel	(3)	32	58	—	0.7	acid pyro 9		—	—	6.6	—
Fab	(2)	34	28	2.8	0.4	tri	12.8	8.4	0.3	10.1	present
Surf	(4)	38	0.6*	—	2.9	di tripoly pyro	2.2 2.6 33.7	—	0.2	8.6	present
Tide	(5)	20	17	0.8	0.7	di tripoly pyro	10.9 23.7 15.8	3.6	0.3	9.7	present

* contained 10.3% magnesium sulfate, and about 0.3% matter insoluble in water (filler).

- (1) Sodium salt of sulfonated ethyl methylethylamide.
 (2) Keryl benzene sodium sulfonate.
 (3) Sodium salt of sulfated coconut oil monoglyceride.
 (4) Nonylnaphthalene sodium sulfonate.
 (5) Sodium salt of sulfated alcohols.

results valid today may not apply a few months later.) Comments regarding the findings of the comparative detergency tests are included in the listings.

The ratings of *light-duty detergents* are based on their effectiveness in removing soil from standard wool soil cloth in hard and soft water in 0.2 and 0.3% solutions. (An 0.2% solution has about 3 tablespoons of detergent for each gallon of water.) In soft water, a test wash was also run in an 0.1% solution. Wool cloth was used as being representative of the most sensitive fabric that light-duty detergents would normally be used for. The ratings of *heavy-duty detergents* are based on the products' effectiveness in removing the soil from two different standard cotton soil cloths, in hard and soft water in 0.05, 0.1, and 0.2% solutions of detergent. Price per ounce to permit convenient comparisons of cost are given in parentheses for each product.

Light-Duty Detergents

A. Recommended

Dreft (Procter & Gamble, Gwynne Bldg., Cincinnati 1) 26c for 15 oz. (1.7c). Washing effectiveness, good in soft and hard water, except at low concentrations of the detergent (less than 0.2% in soft water and 0.3% in hard water). 1

Sweel (Sweel Products Div., Allied Chemical and Dye Corp., 61 Broadway, N.Y.C.; distributed by H. J. Heinz Co.) 27c for 10 oz. (2.7c). Washing results on wool soil cloth, good in both soft and hard water, compared with other detergents tested. 2

B. Intermediate

Breeze (Lever Bros., Cambridge, Mass.) 25c for 10 oz. (2.5c). Washing effectiveness on wool soil cloth, only fair in soft water; good in hard water. 2

C. Not Recommended

Vel (Colgate-Palmolive-Peet Co., 85 Hudson St., Jersey City, N.J.) 26c for 15 oz. (1.7c). Washing effectiveness, poor in both soft and hard water. 1

Heavy-Duty Detergents

A. Recommended

Surf (Lever Bros. Co., Cambridge, Mass.) 27c for 19 oz. (1.4c). Washing effectiveness on cotton soil cloths, generally good. Little redeposition of soil. Judged to be the best detergent in the heavy-duty group tested for washing cottons in hard water, but on one of the two soil cloths used, only fair in soft water. 1

Tide (Procter & Gamble, Gwynne Bldg., Cincinnati 1) 26c for 19 oz. (1.4c). Washing effectiveness on cotton soil cloths, generally good. On one soil cloth, in hard water, somewhat poorer than *Surf*. Little redeposition of removed soil in soft water, but considerable in hard water. Judged to be the best of the heavy-duty detergents in washing cottons in soft water. (Some automatic washing machines carry instructions for using only synthetic detergents, not soap, regardless of the kind of water; when this does not apply, soap will be the preferred detergent in soft water.) 1

C. Not Recommended

Fab (Colgate-Palmolive-Peet Co., 85 Hudson St., Jersey City, N.J.) 26c for 19 oz. (1.4c). Washing effectiveness on cotton soil cloths, generally poor, especially at low concentrations (under 0.2%). Little redeposition of soil in soft water, considerable in hard water. 1

Weed Killers

WEEDS become a garden problem in the summer, but consumers should not let their weed-killing enthusiasm lead them to buy and use poisonous weed killers carelessly. Weed killers containing sodium arsenite and other arsenic compounds have an effective killing action, but their use involves grave poisoning hazards to man and to domestic animals, as CR has long since advised its subscribers, and is never to be recommended. One state experiment station warns "Arsenicals are very poisonous and great care must be employed to avoid taking them internally, inhaling the vapor or dust, or getting the poison into cuts or open places in the skin. Children should be kept away from places where arsenicals have been used, and the material should be stored out of their reach."

G & O Weed and Poison Ivy Killer (Goulard & Olen, Inc., Skillman, N. J.) which, according to its label, contains — along with sodium chlorate and ammonium sulfamate — 35.5% sodium arsenite¹, carries a poison warning, lists antidotes, and bears a warning not to inhale dust or spray mist,

and not to use on lawns or in or near vegetable, flower, or shrub gardens, and to keep children, pets, and livestock off treated areas for at least 48 hours. Waiting 48 hours could not possibly guarantee safety with use of such a product; the function is not, of course, merely one of the time elapsed.

CR believes that only under very exceptional circumstances should the consumer ever consider the use of an arsenical weed killer; use of weed killers of the general type used by farmers involves risk of poisoning water sources, or food materials that may be used at home, or marketed, in one way or another, and hence must always imply dangers to consumers, depending upon the skill, care, and judgment used. Michigan State College Circular 214 says that "Sodium arsenite and other compounds containing arsenic are efficient herbicides. They are nonselective and poisonous to man and livestock. Therefore, the use of arsenicals for farm weed control purposes is not generally recommended."

¹As sold, in the can, and before dilution with 40 to 50 parts of water.

Sanitary Napkins

IN 1936 when Consumers' Research tested sanitary napkins, 15 brands (including three from mail-order houses) were readily available in the New York area. For the present test, it was difficult to find as many as eight brands, by diligent shopping. *Kotex* and *Modess* are the two brands most commonly stocked, and small neighborhood druggists will tell you that they have little, if any, call for other brands. In this connection, it is interesting to note that a study by the late Office of Price Administration, issued in May 1942, reported that 80 percent of the sanitary napkins produced were put out by International Cellucotton Products (makers of *Kotex*) and Personal Products Co. (makers of *Modess*). In third place at that time was the product of the San-Nap-Pak Mfg. Co.

The complaint has been made that post-war sani-

tary napkins are inferior in quality in many respects to those available earlier. Since CR made no tests on sanitary napkins immediately before the war, we are unable to compare the results of the current test with data on products available eight years earlier. Those who find present-day supplies unsatisfactory may find some clue to the cause of their discontent in the table comparing dimensions of the various brands. The length of the gauze wrapper, for example, with the exception of two brands (*Venus* and *Arrels*), did not even equal the permitted length set by the WPB in 1942, at a time when minimum standards were in effect to conserve material needed for wartime uses. Nor did any brand in this test supply a product which equalled the width of the wrapper permitted by the WPB standards.

The eight brands currently available were sub-

Dimensions (in Inches)

Brand	Wrapper				Filler		
	Length	Width	Tabs	Lap	Length	Width	Thickness
8 $\frac{3}{4}$ for napkins with cellulose filler (except Super size) 9 for napkins with cotton filler (except Super size) 9 $\frac{3}{8}$ Super size with either type filler							
WPB's Wartime Maximum Dimensions	19						
<i>Arrels</i> (cellulose)	19	8 $\frac{1}{2}$	4 $\frac{1}{2}$ x 6 $\frac{3}{4}$	2	7 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{8}$
<i>Cellu-Fluff</i> (cellulose)	18 $\frac{3}{4}$	8 $\frac{1}{2}$	4 x 7	2	7 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{8}$
<i>Dixie Belle</i> (cotton)	17	3 (tube)	4 x 4 $\frac{1}{2}$	—	7 $\frac{1}{4}$	3 $\frac{1}{4}$	$\frac{3}{4}$
<i>Wards Super Soft</i> (cellulose)	18 $\frac{1}{2}$	8 $\frac{1}{2}$	4 $\frac{1}{4}$ x 6 $\frac{1}{2}$	2	7 $\frac{1}{2}$	2 $\frac{1}{2}$	$\frac{5}{8}$
<i>Sanapak</i> (paper tissues)	17 $\frac{3}{4}$	8	3 $\frac{1}{4}$ x 6 $\frac{1}{4}$	2	8 $\frac{1}{2}$	2 $\frac{5}{8}$	$\frac{5}{8}$
<i>Venus</i> , compressed (cotton)	20	3 (tube)	4 $\frac{1}{2}$ x 6 $\frac{1}{2}$	—	6	3	$\frac{7}{8}$
<i>Venus</i> —8 in. (cotton)	19	3 (tube)	5 x 5 $\frac{1}{2}$	—	8	3 $\frac{1}{4}$	$\frac{7}{8}$
<i>Kotex</i> , Jr. (paper and cellulose)	18 $\frac{1}{2}$	7 $\frac{1}{2}$	4 x 6	1 $\frac{3}{4}$	8 $\frac{5}{8}$	2 $\frac{1}{4}$	$\frac{5}{8}$
<i>Modess</i> , Jr. (cellulose)	18 $\frac{1}{2}$	7 $\frac{1}{2}$	4 $\frac{1}{4}$ x 5 $\frac{3}{4}$	1 $\frac{1}{2}$	7 $\frac{3}{4}$	2 $\frac{3}{8}$	$\frac{3}{4}$
<i>Kotex</i> , Regular	18 $\frac{1}{2}$	8	4 x 6	2	8 $\frac{3}{4}$	2 $\frac{5}{8}$	$\frac{5}{8}$
<i>Modess</i> , Regular	18 $\frac{1}{2}$	8 $\frac{1}{2}$	4 x 6 $\frac{1}{2}$	1 $\frac{3}{4}$	7 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{3}{4}$
<i>Venus</i> , 9 in.	23	4 (tube)	5 x 8	—	9 $\frac{1}{2}$	3 $\frac{1}{2}$	1 $\frac{1}{8}$
<i>Kotex</i> , Super	18 $\frac{1}{2}$	9	4 x 6	2	8 $\frac{3}{8}$	3	$\frac{3}{4}$
<i>Modess</i> , Super	18 $\frac{1}{2}$	9	4 $\frac{1}{2}$ x 6 $\frac{1}{2}$	1 $\frac{3}{4}$	7 $\frac{1}{2}$	2 $\frac{3}{4}$	$\frac{3}{4}$
<i>Venus</i> , 12 in.	25	4 (tube)	4 $\frac{1}{2}$ x 9	—	12	3 $\frac{3}{4}$	1 $\frac{1}{8}$

jected to tests worked out by Consumers' Research in 1936 and improved upon since that time. In addition to making the measurements of the various products, which are recorded in the table of dimensions, they were dissected and the nature of the filler determined. Tests were also made to measure the specific and the ultimate absorption of the various napkins. The question of comfort was considered too subjective to be rated satisfactorily. The ease of disposal in the average plumbing system has been commented on, but has not been taken into account in rating the products. Since none of the products listed was found to be constructed and to perform as well as should be expected at the present time when materials are in fairly plentiful supply, none has been given an *A-Recommended* rating.

In passing, brief reference may be made to the tampon, a product that offers some competition to the conventional sanitary napkin. In the 1942 study by the OPA, already referred to, the sales of the tampon type were found to be negligible as compared to sanitary napkins. In 1945, they were found to amount to about 10 percent of the sales of sanitary napkins. Some medical writers have reported favorably on their use, while others warn against them. In some cases, it has been found necessary to supplement the use of tampons with regular napkins for a time. Physicians who advise against the use of tampons report that they are a potential cause of infection and that pre-existing infections are aggravated by their use. Since their medical safety and desirability have not yet been established, no tampons were included in CR's test.

Ratings are as follows.

B. Intermediate

Arvels (Affiliated Retailers, Inc., 855 Avenue of the Americas, New York City) 26¢ per doz. (\$1.09 for 50). Regular size. 2-in. lap. Pad consisted of cotton cellulose, wrapped in tissue, with slight gauze reinforcement. Should be readily disposable if separated.

Cellu-Fluffs (Sears-Roebuck's Cat. No. 25-5558) 24¢ per doz., plus postage (96¢ per box of 48). Regular size. 2-in. lap. Pad consisted of cotton cellulose, wrapped in tissue, with slight gauze reinforcement. Should be readily disposable if separated. Appeared to be the same as *Arvels*.

Kotex (International Cellulocotton Products Co., Chicago) 33¢ per doz., Junior, Regular, and Super sizes. 13¼-in. lap, Junior; 2-in. lap on other two sizes. Pad consisted of layers of paper tissue and cotton cellulose. Pad ends tapered. The Super size, as might be expected, gave very good performance in absorption test, somewhat better than the Junior and Regular sizes. *Kotex* napkins should be readily disposable in ordinary plumbing system, if separated.

Modess (Personal Products Corp., Milltown, N. J.) 33¢ per doz., Junior, Regular, and Super sizes. 13¼-in. lap, Junior; 13¼-in. lap on other sizes. Pad of cotton cellulose, wrapped in tissue, with over-all wrapping of gauze. The Super size gave better performance in absorption test than other two sizes. In this test, the performance of all three *Modess* products was somewhat lower than the *Kotex* pads. Should be readily disposable, if separated.

Venus (The Venus Corp., 1170 Broadway, N.Y.C.) \$1.25 per doz., 8-in. size; \$1.35 per doz., 9-in. size; \$1.60 per doz., 12-in. size; 75¢ each, Compressed Sanitary Napkin No. 3. Knitted gauze tube. Pad of cotton. All napkins were penetrated rather readily, but showed high total absorptions. Compressed napkin showed variable properties depending on the extent to which it was "fluffed" out. Should not be disposed of in ordinary plumbing system.

* * *

The following were somewhat less satisfactory in absorption tests than those brands immediately preceding the asterisks.

Sanapak (San-Nap-Pak Mfg. Co., 11 W. 42, N.Y.C.) 19¢ per doz. (special sale price). 2-in. lap. Pad made of multiple layers of tissue, wrapped in gauze. Rather readily penetrated, but total absorption was satisfactory. Should be readily disposable, if separated.

Wards Super Soft So-Soft Pads (Montgomery Ward's Cat. No. 53-9902) 24¢ per doz., plus postage (99¢ per box of 50). 2-in. lap. Pad consisted of cotton cellulose, wrapped in tissue, with slight gauze reinforcement. Very similar to *Arvels*, but had less specific absorption and less total absorption. Should be readily disposable, if separated.

C. Not Recommended

Dixie Belle (Dixie Belle Div., Acme Cotton Products Co., Inc., 245 Fifth Ave., New York 16) 29¢ per doz. Knitted gauze tube. Pad, cotton. Very easily penetrated and low total absorption. Should not be disposed of in ordinary plumbing system.

Soluble Coffees

THERE ARE two kinds of soluble coffee powders on the market. One is made from pure coffee by dehydrating a concentrate. The second is made by adding dextrins, maltose, and dextrose to the powder resulting from the dehydration of coffee. That made from pure coffee makes a beverage which more closely approximates a coffee flavor than the other, according to the findings of

the three coffee tasters who evaluated the beverages from an organoleptic standpoint for CR.

These experts agreed that none of the soluble coffees make a really fine cup of coffee. They make something to drink that is hot and wet and looks like coffee, and many people like it as a beverage, but as one expert put it when making the test, "Any resemblance to coffee is purely coincidental."

The aroma of the beverage made from soluble coffees is also not anywhere nearly equal to that of freshly-brewed, freshly-roasted coffee.

These experts, of course, were testing a coffee-like beverage and measuring it against the exacting standards of freshly-roasted, freshly-ground coffee. It must be remembered that when experts taste coffee, they insist on coffee that has been roasted only a few hours before and has been ground expressly for and at the time of the test. The layman, on the other hand, is used to coffee that has been roasted and ground for a considerable period of time, oftentimes for weeks, and has come to accept as the authentic flavor of good coffee a taste that the expert regards as characteristic of marked staleness. Thus the beverage that results from the use of soluble coffee, which, when made according to directions, is a little like weak coffee made from stale grounds, is a great deal more acceptable as coffee to most laymen than it would be to experts.

Provided one is not anxious to have the flavor of fresh coffee of a good grade, ground at the time of use, or provided one likes the soluble-coffee flavor, there is a great deal to be said in favor of the new products that require only to be stirred into hot water. They are easy to store, convenient to use, and minimize dishwashing. It is also convenient to regulate the strength of individual cups to suit various ages and tastes within a household. All three experts making the tests agreed that a more palatable beverage was produced by using a little more of the powder than directions called for in the case of each of the six brands tested.

The findings in the organoleptic tests show that the flavor differences among the six brands tested were slight. In order of preference resulting from nine "blind" tests by the three tasters, the brands were: *Borden's Instant Coffee*, *Instant Maxwell House Coffee*, *Nescafé Soluble Coffee Product*, *Instant Sanka Coffee*, *Instant Chase & Sanborn Coffee*, and *Instant G. Washington's Coffee*.

In addition to the organoleptic tests mentioned, CR also had soluble coffees analyzed for their caffeine content. There are varying estimates as to the amount of caffeine in a cup of coffee, ranging from about 1.25 to 3 grains per cup. The U. S. Dispensatory, usually a reliable source of information on questions connected with drugs, says that an average cup of coffee contains about 1.5 grains (0.1 gram) of caffeine. On the average, the soluble coffees will supply less caffeine per cup than a freshly made coffee beverage.

The sample of *Instant Chase & Sanborn Coffee* analyzed contained the greatest amount of caffeine per cup, about 1.1 grains when the beverage was made with one level teaspoonful of soluble coffee. Directions, however, recommended using a rounded teaspoon per cup, more or less, according to strength desired. Coffee beverage prepared in this manner

could be rather strong so far as the caffeine content is concerned. An individual who considered a rounded teaspoon to be one nearly as full as possible would prepare coffee having 3 or 4 grains of caffeine per cup ($2\frac{1}{2}$ to 3 grains is the average medicinal dose, too much for frequent or regular consumption).

Borden's Instant Coffee recommends using one-half to three-quarters level teaspoon per cup. Such coffee would contain 0.4 to 0.6 grain of caffeine per cup. For a strong beverage, a level teaspoonful is recommended; prepared according to these directions, the beverage would contain only 0.8 grain of caffeine.

Instant Sanka Coffee, a decaffeinated product, made a beverage that contained only about 1/30th the caffeine content of regular coffee.

On a price basis, the soluble coffees have a definite advantage over the fresh coffee beverage at this time. A cup of coffee beverage made from soluble coffee may cost from about $1\frac{1}{4}$ c to $1\frac{3}{4}$ c, for products costing 47c a 4-oz. jar (or about 12c an oz.). If coffee sells at about 80c a pound, however, real coffee may be expected to cost 2c to $2\frac{1}{4}$ c a cup, assuming an average of 35 to 40 cups per pound of coffee.

The prices given are those paid for the samples tested; prices in parentheses are the costs per ounce of the soluble coffees. It is interesting to note that the pure soluble coffees cost about twice as much per ounce as those with added dextrins, maltose, and dextrose, reflecting, no doubt, the lower cost of ingredients in the mixed products. The caffeine per cup given in the listings is for a cup of beverage made with a level teaspoonful of soluble coffee; if a rounded teaspoonful is used, the caffeine content will be about doubled.

B. Intermediate

Instant Chase & Sanborn Coffee (Standard Brands Inc., 595 Madison Ave., New York City) 4 oz., 47c (12c). A soluble coffee product with added dextrins, maltose, and dextrose. Caffeine per cup in grains, 1.12. Gave highest caffeine content of the beverage of any of the soluble coffees tested (see text). 1

Instant G. Washington's Coffee (G. Washington Div., American Home Foods, Inc., Hanover Ave., Morris Plains, N. J.) 4 oz., 47c (12c). A soluble coffee product with added dextrins, maltose, and dextrose. Caffeine per cup in grains, 0.39. 1

Nescafé Soluble Coffee Product (Nestlé Co., 155 E. 44, New York 17) 4 oz., 47c (12c). A soluble coffee product with added dextrins, maltose, and dextrose. Caffeine per cup in grains, 0.18. 1

Borden's Instant Coffee (Borden Co., 350 Madison Ave., N.Y.C.) 2 oz., 47c (24c). A pure coffee extract. Caffeine per cup in grains, 0.77. Rated best of all brands tested in the experts' taste test. 2

Instant Maxwell House Coffee (General Foods Corp., 250 Park Ave., N.Y.C.) 2 oz., 53c (27c). A pure coffee extract. Caffeine per cup in grains, 0.85. 2

Instant Sanka Coffee (General Foods Corp.) 2 oz., 61c (31c). A soluble decaffeinated coffee. Caffeine per cup in grains, 0.03. 3

Off the Editor's Chest

(Continued from page 2)

test, for example, we learned that one well-known manufacturer used three different names for his 128-count sheet, and that three still different brand names were used interchangeably both on combed percales with 180 thread count and on the so-called luxury muslins with a 140 thread count.

In April 1950, CONSUMERS' RESEARCH BULLETIN presented a report on box springs. Shortly after its appearance, a subscriber wrote us that some sales people in his locality had told him that there was a wide difference in springs and mattresses sold under a given brand name, but made in different factories. In fact, he had been informed that the brand name was an indication, not of quality, but merely of style. The companies whose products had been listed were queried on this point, and some of the replies were quite revealing. Two companies frankly recognized the problem and stated that they took precautions to determine the uniformity of the quality of the product bearing their names. The sales manager of another admitted that CR's correspondent was substantially correct so far as his company's products were concerned, although he noted that there were minimum standards below which his supplying manufacturers were not permitted to go. Still another company official commented that the statement that the brand name indicated a type was not correct, but admitted that with his company's box spring, it was optional whether a brand-name spring or a hand-tied spring of unnamed make was used.

In a test of vacuum cleaners, CR reported the cleaning efficiency of a number of makes including an *Electrolux XXX* and an *Electrolux 30*. One subscriber, endeavoring to make her selection on the basis of CR's ratings, wrote that the salesman in her territory assured her that his company made only one model, the one he had with him to demonstrate. After correspondence over a considerable period of time, we were finally advised by the company that *Model 30* and *XXX* were one and the same machine, but that the *Model XXX* that we had tested was undoubtedly not their latest *Model XXX*. Just how the consumer who wanted to buy the latest model could be sure of what he was getting was not disclosed. It would seem that in this case the appliance manufacturer could well take a lesson from the practices of the automobile manufacturer and label his model *XXX-49* or *XXX-50* (with the difference, however, that if it is called *XXX-50*, it should have been made in 1950, not in late '49, as has been

the customary, but misleading practice in the automobile trade).

The trade association which devotes considerable time and funds to promoting the claim that branded products are best would do well to get some good engineering advice on how to persuade its members and others that a brand name ought to meet certain accepted standards of quality that have been clearly set forth in writing and by appropriate drawings and specifications. That means the responsibility for brand quality should be solely in the production and design departments, not in the sales, advertising, and publicity offices of the companies in question. The best comment we have seen on the subject appeared in a little house organ of Electrical Testing Laboratories, a testing laboratory of high competence in New York City:

It is interesting to watch the promotional activities of those who are seeking further to entrench brand names in public esteem. ETL people wish that producers would devote a tithe of the enthusiasm poured out in advocating guidance by brand names to sturdy insistence that branded goods shall be leaders in quality. Independent testing affords the best means of determining whether, as asserted, branded goods are superior or not. . . . ETL people are inclined to think that if they were doing it they would advocate reliance upon respectable brand names but they would make darn sure that the brands are highly respectable.

In these days when so many large concerns either have well-established and splendidly equipped research departments and laboratory facilities of their own or can readily employ the facilities of independent laboratories, there is little excuse for manufacturers' turning out under a particular brand name products of variable quality or products which are so poorly identified that the purchaser cannot tell whether he is buying old stock or a model just off the assembly line. Quite commonly, even a major electrical appliance bears no identification visible to the purchaser that can be used to distinguish and identify it, even for the purpose of obtaining a new part or fitting to replace one that has worn out or become broken. With the increasing number of graduates turned out by colleges and universities with qualifications in science and engineering, the number of consumers who appreciate a scientific, workmanlike approach to the problem of making an intelligent selection in their home buying continues to mount, aided and encouraged, as we know, by the detailed reports of comparative tests made by Consumers' Research. A goodly portion of the new generation of consumers will not, we are sure, be taken in by sex appeal, fine phrases, glamour, and four-color art work as substitutes for knowing whether the product will actually provide the kind of performance asserted for it. The brand name, in other words, will need to stand for grade, quality, and performance, not fine phrases and "sales appeal."

RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

Box Office, Charm, Chicago Daily Tribune, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Preview Committee, Successful Farming, Time, Variety (weekly), Weekly Guide to Selected Motion Pictures (National Board of Review of Motion Pictures, Inc.), and Unbiased Opinions of Current Motion Pictures which includes reviews by the General Federation of Women's Clubs, the American Legion Auxiliary, National Film Music Council, and others.

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fant—fantasy
hist—founded on historical incident
mel—melodrama
mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C	
8	4		Adam and Evalyn.....dr A
2	5		Admiral Was a Lady, The.....mus-com A
2	4		Angels of the Streets.....dr A
5			Anna of Rhodes.....mus-dr A
8	9		Annie Get Your Gun.....mus-com-c A
2	4		Arizona Cowboy, The.....mus-wes AYC
4	1		Armored Car Robbery.....cri-mel A
3	10		Asphalt Jungle, The.....mel A
10	9		Astonished Heart, The.....dr A
1	3		Avengers, The.....mel A
5	5		Backfire.....mel A
4	5		Baron of Arizona, The.....hist-mel A
3	10		Barricade.....cri-mel-c A
7	2		Beauty on Parade.....dr A
2	6		Belle of Old Mexico.....mus-com-c A
8	2		Bells of Coronado.....mus-wes-c AYC
4			Between Eleven and Midnight.....mys-mel A
1	3		Beware of Blondie.....com AYC
1	4		Big Hangover, The.....com A
4	8		Big Lift, The.....war-dr AY
1	8		Black Hand, The.....cri-mel A
6	4		Blonde Bandit, The.....cri-mel A
1	6		Blonde Dynamite.....mel A
3	7		Blue Grass of Kentucky.....dr-c AYC
5	2		Blue Lamp, The.....cri-dr A
4	6		Bond Street.....dr A
1	4		Border Street.....war-dr A
6	6		Borderline.....cri-mel A
3	4		Boy from Indiana.....mel A
5	7		Bright Leaf.....dr A
4	3		Broken Arrow.....dr-c AYC
5	9		Buccaneer's Girl.....mus-mel-c A

A	B	C	
4	9		Caged.....soc-dr A
1	2		Call of the Forest.....dr AYC
5	12		Captain Carey, U.S.A.....war-mel A
3	3		Captive Girl.....adv-c AYC
4	9		Capture, The.....mel A
5	7		Cargo to Capetown.....mel A
2	2		Catskill Honeymoon.....mus-com A
2	11		Chain Lightning.....mel A
11	4		Champagne for Caesar.....com A
2	11		Cheaper by the Dozen.....dr-c AYC
1	3		Child of Man.....dr A
5	2		Children, The.....dr AYC
1	3		Children of Chaos.....dr A
6	1		Code of the Silver Sage.....wes AYC
5	4		Colorado Ranger.....wes AYC
5	5		Colt 45.....wes-c AYC
1	8		Comanche Territory.....mel-c AYC
4	3		Congolaise.....trav-doc A
1	3		Counter Investigation.....mel A
5	1		Cowboy and the Prize-fighter, The.....wes-c AYC
7	1		Cowtown.....mus-wes-c AYC
2	1		Cribs.....soc-dr A
1	7		Cry Murder.....cri-mel A
10			Curtain Call at Cactus Creek.....mus-wes-c AYC
3	6		Customs Agent.....mel A
5	7		Dakota Lil.....mus-wes-c A
6	10		Damned Don't Cry, The.....dr A
1	9		Daughter of Rosie O'Grady, The.....mus-com-c A
6			David Harding, Counterspy.....mys-mel AYC
1	4		Daybreak in Udi.....doc A
2	4		Destination Big House.....mel A
1	5		Destination Murder.....cri-mel A
3	3		Devil's Doorway.....wes AYC
1	7		D.O.A.....cri-mel A
2	4		Dream No More.....doc-dr A
5			Duchess of Idaho.....mus-com-c AYC
5	3		Dynamite Pass.....wes AYC
6	4		Eagle and the Hawk, The.....hist-mel-c A
4	2		Escape into Dreams.....war-dr A
2	3		Everybody's Dancin'.....mus-com AY
5	8		Father is a Bachelor.....dr A
1	4		Father Makes Good.....com A
3	11		Father of the Bride.....com AYC
4	8		Faust and the Devil.....mus-dr A
2	5		Federal Agent at Large.....mus-mel AY
1	4		Fence Riders.....wes AYC
3			50 Years Before Your Eyes.....doc AY
2	4		Fighting Stallion, The.....dr AYC
1	7		Flying Saucer, The.....mys-mel A
1	5		Forbidden Jungle.....mel A
5	6		Fortunes of Captain Blood, The.....mel AYC
4	4		Four Days Leave.....war-com-c A
3	2		Frontier Outpost.....wes AYC
1	4		Gates of the Night.....war-mel A
3	4		Gigi.....dr A
4	2		Girl from San Lorenzo, The.....wes AYC
3	1		Girls Behind Bars.....dr A
7	7		Give Us This Day.....dr A
9	4		Glass Mountain, The.....mus-dr A
3			God, Man, and Devil.....dr A
6	4		Golden Gloves Story, The.....dr AY
3			Golden Salamander.....cri-mel A
3	2		Golden Twenties, The.....mus-doc AYC
6	1		Good Humor Man, The.....com AYC
5			Good Time Girl.....mel A
5	1		Great Jewel Robbery, The.....cri-mel A
2	7		Great Plane Robbery, The.....cri-mel AYC
9	5		Great Rupert, The.....mus-dr AYC
8	5		Guilty Bystander.....mys-mel A
1	9		Gun Fighter, The.....wes AYC
1	4		Gunmen of Abilene.....wes AYC

A	B	C
6	3	Happy Years, Thecom-c AYC
5	3	Harbor of Missing Menmel AY
3	5	Heart and Souldr A
3	6	Her Wonderful Liemus-dr A
1	5	Hoedowncom AYC
3	2	Hostile Countrywes AYC
5	9	House by the Rivermys-mel A
3	3	Humphrey Takes a Chancecom AYC
6	5	I Was a Shopliftercri-dr A
7	4	Il Trovatoremus-mel A
1	9	In a Lonely Placemel A
5	2	Iroquois Trail, Thenew AYC
4	3	It's a Small Worlddr A
2	3	Ivan Pavlovbiog A
1	9	Jackie Robinson Story, Thebiog AYC
4	3	Jiggs and Maggie Out Westcom AYC
5	2	Joe Palooka Meets Humphreymel AYC
1	5	Johnny One Eyedr A
8	7	Key to the Citycom A
5	8	Kid from Texas, Thewes-c A
4	4	Kill or Be Killedcri-mel A
7	5	Kill the Umpirecom AYC
5	1	Killer Sharkmel A
1	9	Kind Hearts and Coronetscom A
1	4	Laughing Lady, Themus-dr-c A
11	2	Lawless, Thesoc-dr A
1	2	Lenindoc-biog A
1	4	Louisacom AYC
1	2	Love of a Clownmus-dr A
8	6	Love that Brutecom A
4	1	Lucky Losersmel A
2	6	Ma and Pa Kettle Go to Towncom AYC
2	4	Mad About the Operamus-dr A
4	1	Madeleinecri-dr A
4	2	MaMadr A
4	6	Mark of the Gorillamel AYC
2	4	Men, Thewar-dr A
5	5	Merchant of Slavesmel A
3	2	Messenger of Peacedr AYC
1	7	Military Academydr AYC
1	2	Modern Marriage, Adoc-dr A
3	3	Monelledr A
9	6	Mother Didn't Tell Mecom A
5	1	Motor Patrolcri-mel AY
1	4	Mrs. Fitzherberthist-dr A
3	3	Mule Trainmus-wes-c AYC
6	1	My Friend Irma Goes Westmus-com A
4	4	Mystery at the Burlesquemus-mel A
1	6	Mystery Streetcri-mel A
1	9	Naked Woman, Thedr A
1	9	Nancy Goes to Riomus-com-c A
10	4	Nevadan, Thewes-c AYC
1	5	Never Feardr A
3	3	Next Voice You Hear, Thedr AYC
6	5	Night and the Citymys-mel A
8	8	No Man of Her Owndr A
3	10	No Sad Songs for Medr A
3	3	O Sole Miomus-dr A
4	8	Once Upon a Dreamcom A
6	8	One Way Streetcri-mel A
1	3	Operation Hayliftdr AYC
1	7	Our Very Owndr A
2	5	Outcast of Black Mesamus-wes AYC
13	2	Outriders, Themel-c A
6	4	Outside the Wallcri-mel A
2	1	Pagliaccimus-dr A
5	4	Palomino, Thewes-c AYC
2	3	Panic in the Streetsmel A
4	1	Peggycom-c AYC
8	6	Perfect Strangerscri-dr A
4	4	Perfect Woman, Thecom A
5	9	Please Believe Mecom A
1	2	Powder River Rustlerswes AYC
3	3	Prelude to Madnessdr A
4	10	Quicksandcri-dr A
3	3	Radar Secret Servicemys-mel AYC
1	3	Range Landwes AYC
1	5	Rapturedr A
4	1	Red Meadowspropaganda-dr A
14	3	Reformer and the Redhead, Thecom AYC

A	B	C
3	2	Return of the Black Eaglemel A
4	5	Return of the Frontiersmanwes AYC
4	1	Rider from Tucsonwes A
4	4	Riders of the Duskwes AYC
4	13	Riding Highmus-com AYC
3	3	Ritamel A
3	3	Roaring Westwardwes AYC
9	2	Rock Island Trailmus-mel-c AYC
6	4	Rocketship XMmel AYC
1	9	Rocking Horse Winner, Thedr A
4	2	Rogues of Sherwood Forestadv-c AYC
3	1	Royal Affair, Acom A
4	4	Rule of the Game, Thecom A
12	3	Run for Your Money, Acom AYC
2	4	Salt Lake Raiderswes AYC
6	6	Sarumbamus-com A
2	6	Scandals of Clochemerle, Thecom A
8	4	Secret Fury, Themel A
5	8	Shadow on the Wallmys-mel A
3	2	Sideshowdr-c AYC
6	4	Sierramus-wes-c AYC
3	3	Sin of Anna Lams, Thedr A
8	3	Singing Gunsmus-wes-c A
5	3	Skipper Surprised His Wife, Thecom AYC
3	3	Sleeping City, Thecri-mel A
5	3	So Long at the Fairmys-mel A
4	2	So Young, So Baddr A
1	4	Spy Huntmel AYC
1	4	Square Dance Katymus-com AYC
1	14	Stage Frightcri-mel A
2	8	Stars in My Crowndr AYC
3	3	State Penitentiarymel A
4	3	Storm Over Wyomingwes AYC
3	3	Storm Within, Thedr A
2	13	Strombolidr A
8	6	Sundowners, Thewes-c A
4	5	Sunset Boulevardcri-mel A
1	2	Tainteddr A
3	5	Tarnisheddr A
5	3	Tarzan and the Slave Girladv AYC
11	3	Tattooed Stranger, Thecri-mel AYC
1	4	Texas Dynamomus-wes AYC
1	4	This Side of the Lawwar-dr A
2	8	Three Came Homemus-wes-c AYC
11	4	Ticket to Tomahawk, Adoc AYC
7	4	Titan, Thedr A
2	8	Torch, Thedr A
1	3	Trail of the Rustlersmus-wes AYC
1	3	Treasure Islandwes-c A
4	4	Twilightdr A
8	1	Twilight in the Sierrasmus-wes-c AYC
3	6	Tyrant of the Seamel A
7	7	Under My Skindr A
7	7	Unmaskedcri-dr A
2	5	Vanishing Westener, Thewes AYC
5	3	Vicious Years, Thewar-dr A
4	4	Victors and the Vanquished, Thewar-dr A
1	2	Voice of Love, Themus-dr A
7	3	Wabash Avenuemus-com-c A
1	10	Wagonmastermus-wes AYC
1	6	Walls of Malapaga, Thedr A
2	3	West of the Brazoswes AYC
4	2	West of Wyomingwes AYC
5	3	Western Pacific Agentwes A
5	8	When Willie Comeswar-com A
4	4	While the Sun Shinescom A
5	4	Whipped, Themel A
4	1	White Tower, Thedr-c AY
2	9	Winchester '73wes A
2	9	Winslow Boy, Thedr AYC
2	3	With These Handsdoc-dr AYC
1	5	Without Pitysoc-dr A
5	5	Wolf Hunters, Themel AYC
5	5	Womandr A
7	10	Woman of Distinction, Acom A
1	5	Women from Headquartersmel AYC
6	6	Yellow Cab Man, Thecom AYC
3	4	Young Daniel Boonemel-c AYC
1	10	Young Man with a Hornmus-dr A

The Consumers' Observation Post

(Continued from page 4)

storing salads in the refrigerator to make certain that they are thoroughly chilled. With lumpy salads, it is best to chill the ingredients before mixing and always store the finished product in shallow pans or containers (to hasten complete cooling).

* * *

THE "NO-RINSE" DETERGENTS have come under the scrutiny of The American Institute of Laundering which, as the result of its investigations, has come to the conclusion that soil is not properly removed from clothes unless they are rinsed. It also found, according to one trade journal, that the bacterial count in unrinsed clothes was considerably higher than when they were rinsed, all other factors being equal.

* * *

ROOM AIR CONDITIONERS are more than a mere luxury, in the opinion of an official of one of the companies in the field. He referred to an article by Dr. Clarence A. Mills of the College of Medicine, University of Cincinnati, which reported the slow growth of human beings and livestock in climates where a blanket of moist heat made an active life impossible. In Iowa or Illinois, for example, it requires 12 to 15 months to bring a steer to 1000 pounds slaughter size; 2-1/2 to 3 years in Louisiana; and 4 to 5 years in Cuba, Panama, or Columbia. College students given standard aptitude or intelligence tests at Cincinnati latitudes across the country achieved ratings only 60 percent as high in summer heat as in winter cold. No such seasonal contrast was found in the northern states, where there was no prolonged depressive summer heat.

* * *

NEW OR NEWLY TESTED:

Hypo Oiler (Gaunt Industries, 827 Irving Park, Chicago 13), \$1 postpaid. Fountain-pen style pocket oiler with plastic body, metal cap, brass head, and hollow steel needle oiler tip which is about an inch long, 0.025 inches in diameter with .014-inch hole. Serviceable for oiling instruments or machines requiring very small quantities of oil, fishing reels, electric razors, clocks, and even certain parts of machine-shop equipment. The device should be useful



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to hobbyists, instrument makers, and others. For best results, the vial should be kept about two-thirds full. Oil is forced out by squeezing the middle of the transparent plastic container or body of the oiler.

Simpak Garment Carrier, No. 42-Z (Simpak Luggage Co., 242 W. 36 St., N.Y.C.), \$8.38 (including federal tax) at department and household supplies stores. This size is advertised as holding 6 dresses or 3 men's suits. Convenient garment carrier of green, red, or brown vinyl plastic, which had an objectionable odor when first opened. Odor disappeared after bag was hung out of doors for 48 hours. Carrier is somewhat similar in design to conventional closet garment bag for suits. It is easily packed, is light in weight, and convenient to carry. When not being carried, it requires a hook on which it must be hung, since it is completely flexible, and garments may be displaced and mussed if the carrier is simply piled on other luggage or laid flat. It would not be practical for use on a long train trip where luggage is customarily stowed under the seat, or for stowing in the luggage compartment of a bus. In an automobile, where it could be hung by a fastening near the rear window, it would be quite useful in protecting garments from dust and sun.

Foldaway (Distributed by All-Luminum Products, 218 Walnut St., Philadelphia), \$19 (\$20 in the Midwest), is a handy 2 ft. x 5 ft. aluminum table. At \$1 a pound (almost twice the per-pound price of today's lower-priced cars), considered too expensive for a metal table that would normally be used only occasionally. Advertising claims that it "opens to feed an army" are to be taken with a grain of salt. The advertising also claims that the table "holds 50 times its own weight" (which would be 900 lb.). When tested with an actual load, it failed decisively and promptly under a steady load of 860 lb. When set up, the table stands 30 in. high, and will seat 8 average-size people but would be too small to accommodate utensils, food, etc., for serving that many people. The table is of sturdy construction and smooth finish, except at the corners, where one may possibly catch his clothes. Glare due to direct reflection of the sun would be a serious annoyance, too, for one or more persons, unless a tablecloth or other suitable covering was used. The device folds to card table size, and can be stored in the trunk of the family car. The legs lock in place when the table is unfolded. The Foldaway table is reasonably light to carry (weight, 18 lb.) and can be set up in a few seconds.

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PHONOGRAPH RECORDS

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

Beethoven: Concerto No. 3. Arrau (piano) with the Philadelphia Orchestra under Ormandy. Columbia LP 4302. \$4.85. Familiar, choice classic. Arrau is less fussy than usual though he is no Schnabel. Ormandy conducts as a musician who knows what he is about. Good recording which lacks, principally, full clarity. Best "Beethoven Third" on a domestic label.

Interpretation A
Fidelity of Recording A

Beethoven: Quartet No. 5. Paganini Quartet. 6 sides, RCA Victor Set WDM 1363. \$3.35. A fine, early work. Superior performance and superb reproduction. Overall, best set of this work.

Interpretation AA
Fidelity of Recording AA

Brahms: Sonatas No. 1 and 2 for Clarinet and Piano. Kell (clarinet) and Horszowski (piano). Mercury LP 10016. \$5.95. An outstanding chamber music disk. Exquisite feeling on the part of both artists and splendid recording. Is there another clarinetist who plays as beautifully as Reginald Kell?

Interpretation AA
Fidelity of Recording AA

Brahms: Concerto for Violin and Orchestra. Menuhin with the Lucerne Festival Orchestra under Furtwängler (9 sides) & **Brahms: Hungarian Dance No. 4.** Menuhin (violin) (1 side). RCA Victor Set WDM 1361. \$5.25. One of the greatest violin concertos gets a strong performance that lacks the eloquence and subtlety found in the Szegedi-Columbia Set 603. Menuhin sounds as though he stood behind the orchestra. Resonant recording, better than Szegedi's which is sometimes wiry and occasionally buries the soloist. Of course, there is always the Heifetz-Victor Set 581 which offers the most sheer and good recording.

Interpretation A
Fidelity of Recording A

Dukas: Sorcerer's Apprentice & Chabrier: Danse Slave & Glinka: Russian and Ludmilla—Overture. Paris Conservatory Orchestra under Jorda. London LP 193. \$4.95. A sparkling group. The *Overture* and the *Danse* are best played. In the *Dukas* I miss bite and the climax is played down. Otherwise, wide range at top and pleasant, though the bass needs maximum boost. But 1½ inches of the *Dukas* side is blank (outside the label), easily enough room for another selection.

Interpretation A
Fidelity of Recording AA

Haydn: Symphony No. 22 and No. 35. Vienna Symphony Orchestra under Sternberg. Haydn Society LP 1009. \$5.95. First recordings of typical young Haydn works. Precise, deft performance and round, resonant reproduction.

Interpretation AA
Fidelity of Recording AA

Mozart: Divertimento No. 15. NBC Symphony Orchestra under Toscanini. RCA Victor LP 13. \$4.45. Gay, delightful work sometimes performed as solo violin with orchestra, as Szegedi and group in Columbia Set 322. Szegedi plays 6 movements, Toscanini 5. Both performances are excellent. Toscanini's recording is preferable though it lacks widest range and resonance.

Interpretation AA
Fidelity of Recording A

Mozart: Serenade for Orchestra No. 9. Orchestra of the Vienna State Opera under Sternberg. Haydn Society LP

1012. \$5.95. Scintillating and engaging work. Brilliantly performed and recorded.

Interpretation AA
Fidelity of Recording AA

Mozart: Sonata No. 26 in B Flat Major (K378). Stern and Zakin (violin and piano) & **Haydn: Concerto No. 1** for Violin and String Orchestra. Stern with Orchestra. Columbia LP 4301. \$4.85. A delightful disk. The popular Mozart sonata is played with style and recorded with admirable balance between instruments. The Haydn, not as violinistic as the Mozart, is beautifully played and well recorded.

Interpretation AA
Fidelity of Recording AA

Puccini: Gianni Schicchi. Taddei, Rapisardi, Dubbini, etc. (singers), under Simonetto. Cetra-Soria LP 50028. \$5.95. Witty one act opera, descendant of the opera buffa, which is performed frequently in Europe, occasionally over here. Expert direction. The singers are better than average though soprano Rapisardi's voice is not sufficient for the role of the daughter. Taddei, in the humorous name part, is top notch. Acceptable recording.

Interpretation A
Fidelity of Recording A

Ravel: Daphnis and Chloé — Suite No. 2 & Beethoven: Leonore Overture No. 3. NBC Symphony Orchestra under Toscanini. RCA Victor LP 1043. \$5.45. Famous interpretations of contrasting works. Recording of the Ravel lacks transparency and the Beethoven presents violins as from a distance, with woodwinds close by.

Interpretation AA
Fidelity of Recording B

Schütz: Weihnachts — Historie. The Cantata Singers & Orchestra under Mendel. R.E.B. Editions LP 3. \$5.95 (Rowayton, Conn.). "Christmas Story" nearly 300 years old — apparently the only recorded lengthy work of this distinguished composer. Charlotte Blocher, solo soprano, strains for one or two high notes but in other respects the performance is imaginative and satisfying. The recording is a joy, too, except for one brief blast when bass Paul Matthen sings. But these faults are tiny. Quiet surfaces.

Interpretation AA
Fidelity of Recording AA

Tchaikovsky: Swan Lake. Kostelanetz and His Orchestra. Columbia LP 4308. \$4.85. Ballet music likely to appeal to every one. Kostelanetz deftly outlines the music and he is recorded with pleasing resonance, brilliance and clarity running a close second, overall, to the phenomenal Golschmann — Victor Set 1028.

Interpretation AA
Fidelity of Recording AA

Tchaikovsky: Symphony No. 6. Vienna Philharmonic Orchestra under von Karajan. Columbia LP 4299. \$4.85. Melancholy masterpiece read with the utmost drama which may lead some to prefer the reigning favorite — the more conservative, well recorded Rodzinski-Columbia Set 558. Somewhat heavy, opaque recording on the new LP, with overall quality little better than the Rodzinski.

Interpretation A
Fidelity of Recording A

RECOMMENDED RCA VICTOR SINGLE DISKS Stokowski and His Symphony Orchestra play *Prelude to the Afternoon of a Faun* on 49-0942. Boston Pope Orchestra play *Meditation from Thais* and Handel's *Largo* on 49-1007.

